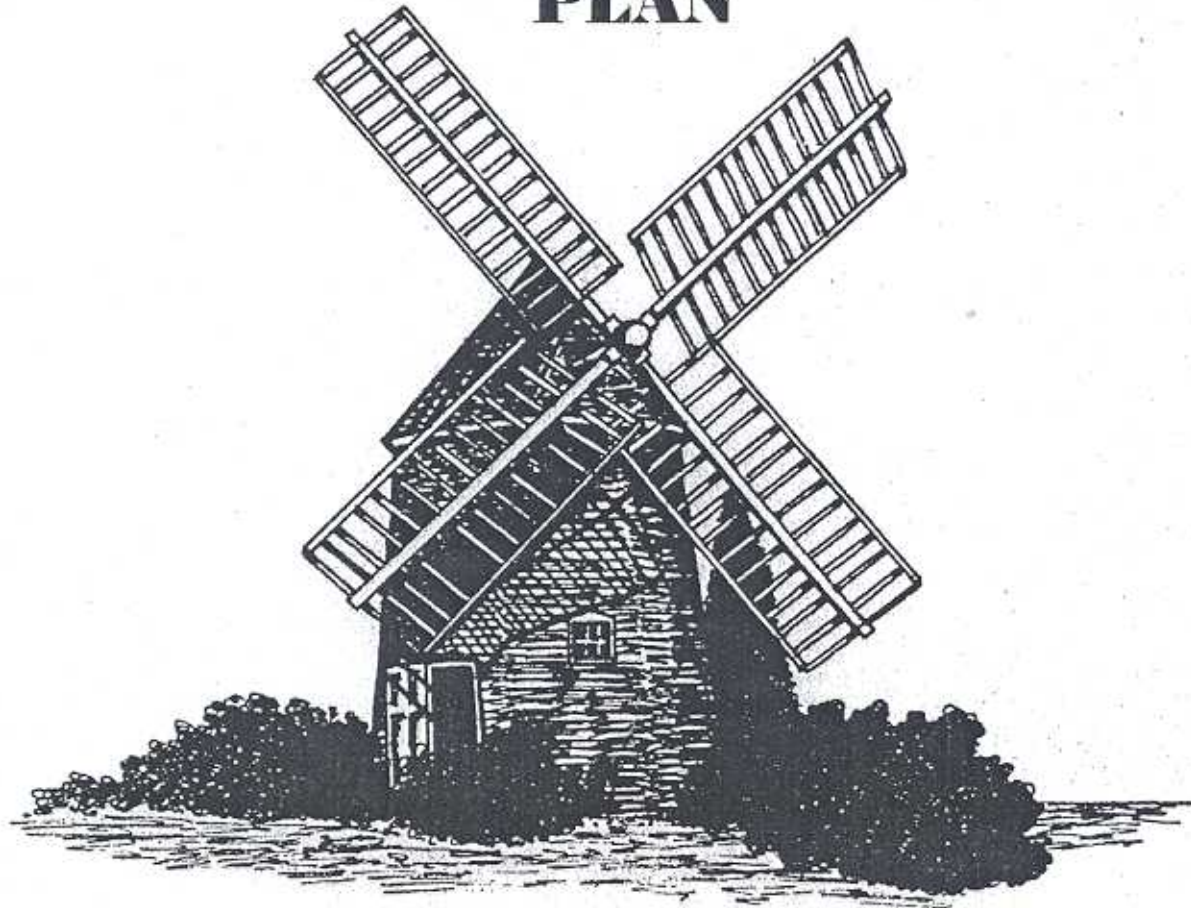


TOWN OF EASTHAM

LOCAL COMPREHENSIVE PLAN



**SECOND EDITION
OCTOBER 2002**

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INTRODUCTION

In 1990, the Cape Cod Commission was established and charged with the preparation and implementation of a regional land use policy plan. In 1991, the Commission adopted the Regional Policy Plan. The original Plan has been updated, the newest version is January 2002. The Plan is designed to help local planning committees identify important goals and policies for their towns, and to help fund and develop established guidelines for the development of local comprehensive plans.

Eastham is one of fifteen (15) towns on Cape Cod (Barnstable County). The boundaries of the Town are dominated by its coastlines (the Atlantic Ocean to the east and the Cape Cod Bay to the west), both approximately four and one-half (4.5) miles in length, and by the Towns of Wellfleet to the north and Orleans to the south. Eastham lies at the base of the outer arm of Cape Cod, ninety-two miles from both Boston and Providence, R. I. The Town has approximately fourteen and One-quarter miles of upland (9,120 acres) of which nearly one-third (3,000 acres) is within the United States Department of the Interior, National Park Service. Eastham has the distinction of being the gateway to the National Park Service Seashore. Topography in this area of the Cape is relatively flat, with a high point of seventy (70) feet along its northeastern coastline. The beauty of the Town attracts year round and summer residents alike.

The Local Comprehensive Plan provides the framework for local decision making. The plan includes *Goals and Policies* that will guide the Community in protecting those small-town qualities that are cherished by those who live and work here. The plan also includes an *inventory* of the Town's resources, an *Analysis* of present and future concerns, and *Recommendations* which reflect our goals and policies. Finally, the plan identifies specific actions designed to *Implement* the recommendations of the Plan.

Eastham's many Boards and Committees, local organizations and town departments contributed to the Plan. They represent a variety of local interests, including health and human services, natural resources, open space, affordable housing, historic preservation, as well as our local Chamber of Commerce. The Plan was developed with their assistance. The 2025 Committee and the Long Range Planning Advisory Board conducted public workshops, hearings and meetings - tabulated and distributed public opinion surveys.

Special assistance was provided by the Cape Cod Commission staff in preparing subsequent drafts and final Plan.

COMMITTEE STATEMENT

Eastham has the distinction of having the first Pilgrims land on its shores. The landing location is “First Encounter” beach, located at the end of Samoset Road which runs west from Town Hall to the Bay. This happening occurred December 8, 1620.

On June 7, 1651 the “Town of Nawsett” became known as Eastham.

Eastham founders and forefathers left legacies for all of us to enjoy and follow. With our history and culture our Town has retained much of its special historical qualities.

Today, we must look to the future and chart our course into the year 2007 and beyond.

Modern technology changes the face of the earth. How much we intend to change Eastham can be debated until we are literally covered with concrete and surrounded by high-rises. We, in the present, must reserve what we can to respect our past for the future. We have chosen Eastham, for its quiet winter life, tree-lined side roads, beautiful beaches, and walking and biking trails that extend into and through the land mass of the National Seashore.

The Nauset Indians walked these grounds many years ago. Our forefathers, the Pilgrims, followed suit. We, who are presently entrusted with formulating plans for the future of Eastham, must do our best to preserve the essence of these grounds. We will be judged for the courage we demonstrate in our comprehensive planning.

Eastham, planning for the future, is identified by the phase: “maintenance of community character.” This is expressed as a desire to produce, in effect, high quality drinking water, a continuance of our small town semi-rural atmosphere, maintaining our beaches, protecting and preserving our historic cultural resources and open space and natural resources. Little expression of the need for growth in our town has been heard. If and when growth occurs, it should be consistent with the carrying capacity of the Town’s natural resources and community facilities and should reflect the desire of the Town.

Eastham is, and will continue to be, a caring community as evidenced by a strong interest in affordable housing for all residents in our Town who have such need, and by the continued strong support given to human services.

Members of the Long Range Planning Advisory Board 2002:

Walter F. Ross, Chairman
Mario Dini, Vice-Chairman
Bernard Kaplan, Clerk
George Abbott
Kenneth Ainsworth

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GLOSSARY OF TERMS

Affordable housing - dwelling units available at a cost of no more than 30% of gross household incomes to households at or below 80% of the county median income as reported by the U. S. Department of Housing and Urban Development (HUD), including units listed under M.G.L. c. 40B and the Commonwealth's Local Initiative Program.

Algal - any chiefly aquatic nonvascular plant.

Anadromous - ascending rivers from the sea for breeding.

Background traffic - the amount of traffic on the roadway system that is not created by new development within the town. Increases in background traffic include additional traffic traveling to locations within and through the town which originate outside the town.

Base flood elevation - base flood elevations for the town of Eastham are shown on maps prepared by the Federal Emergency Management Act (FEMA) as part of the National Flood Insurance Program (NFIP). The maps are held by the Natural Resources Department and the Conservation Commission.

Biodiversity - the sum total of the variety of species that occur within a given area or ecosystem.

By-right - a use allowed under zoning without requiring a special permit.

Catadromous - living in fresh water and going to the sea to spawn.

Coliform - relating to, resembling or being the colon bacillus.

Cumulative loading analysis - a watershed-based nutrient loading analysis.

Cluster development - a form of development that permits a reduction in lot area, frontage and setbacks to allow development on the most appropriate portions of a parcel of land in return for provision of a compensatory amount of permanently protected open space within the property subject to a development application.

Density bonus - zoning ordinances or bylaws may provide for special permits authorizing increases in the permissible density of population or intensity of a particular use in a proposed development so long as the applicant provides certain public benefits or amenities such as open space or affordable housing.

Equalized valuation - the fair cash value of all property in the town subject to taxation.

Flood plain zone - those areas subject to coastal flooding at base flood elevation levels established according to the Flood Insurance Rate Maps.

Glacial till - unstratified glacial drift consisting of clay, sand, gravel and boulders intermingled.

GPD - gallons per day.

Impact fees - a contribution paid by a person undertaking a development to a municipality designed to offset the impacts of a development. Impact fees may include, but are not limited to, creation or improvement of streets, sewers, water supplies, parks, schools, affordable housing and similar capital facilities.

Improvement Dredging – Any dredging under a license or permit in an area which has not been previously dredged or which extends the original dredged width, depth, length, or otherwise alters the original boundaries of a previously dredged area.

Land coverage - the percentage of the total lot area covered by structures or roofs.

Maintenance Dredging – Dredging in accordance with a license or permit in any previously authorized dredged area which does not extend the originally dredged depth, width or length.

Macroalgal - submerged aquatic vegetation.

Minimum Performance Standards - the basis for revising local regulations for future development in Eastham.

MIS - Management Information Systems.

No discharge zone - Land/water areas where the discharge to groundwater/water body of wastewater, hazardous waste, etc. is prohibited.

Outwash plain - a very fine flat landform of sand and gravel sloping gradually to the shoreline. In Eastham the gradual slope is from the east to the west.

Pervious - permeable, having pores or openings that permit liquids or gases to pass through.

PPM - parts per million.

Recharge area - Precipitation recharge areas are surfaces which are permeable to water and allow precipitation to move downward to the groundwater table. Containment recharge areas include areas where septic effluent or hazardous materials are discharged and move downward to the groundwater. Areas/zones of contribution are specific recharge areas around a well, pond or lake which contribute precipitation/contamination recharge to the well, pond or lake.

Strip development - continuous or intermittent linear roadside development located outside designated growth centers, generally one store deep, characterized by multiple roadway access, highly visible off-street parking, an assortment of commercial uses with direct access to abutting roads.

Swales - a shallow ditch-like depression often constructed to temporarily hold precipitation runoff to allow that water to percolate into the soils and recharge groundwater.

Tax title lands - parcels of land which have been taken by the town for failure to pay taxes.

Turbidity - not clear, clouded as if with sediment.

Transfer of development rights - the conveyance of development rights by deed, easement, or other legal instrument, authorized by local law, to another parcel of land. A transfer of development rights program may be used to transfer the development rights from environmentally sensitive areas of a community, or sending zones, to designated areas within a community in which density may be increased, or receiving zones.

Vernal pools - a seasonal fresh water body contained in an isolated depression that holds water for at least two consecutive months in most years, is free of adult fish populations and provides breeding habitat for amphibians and invertebrates.

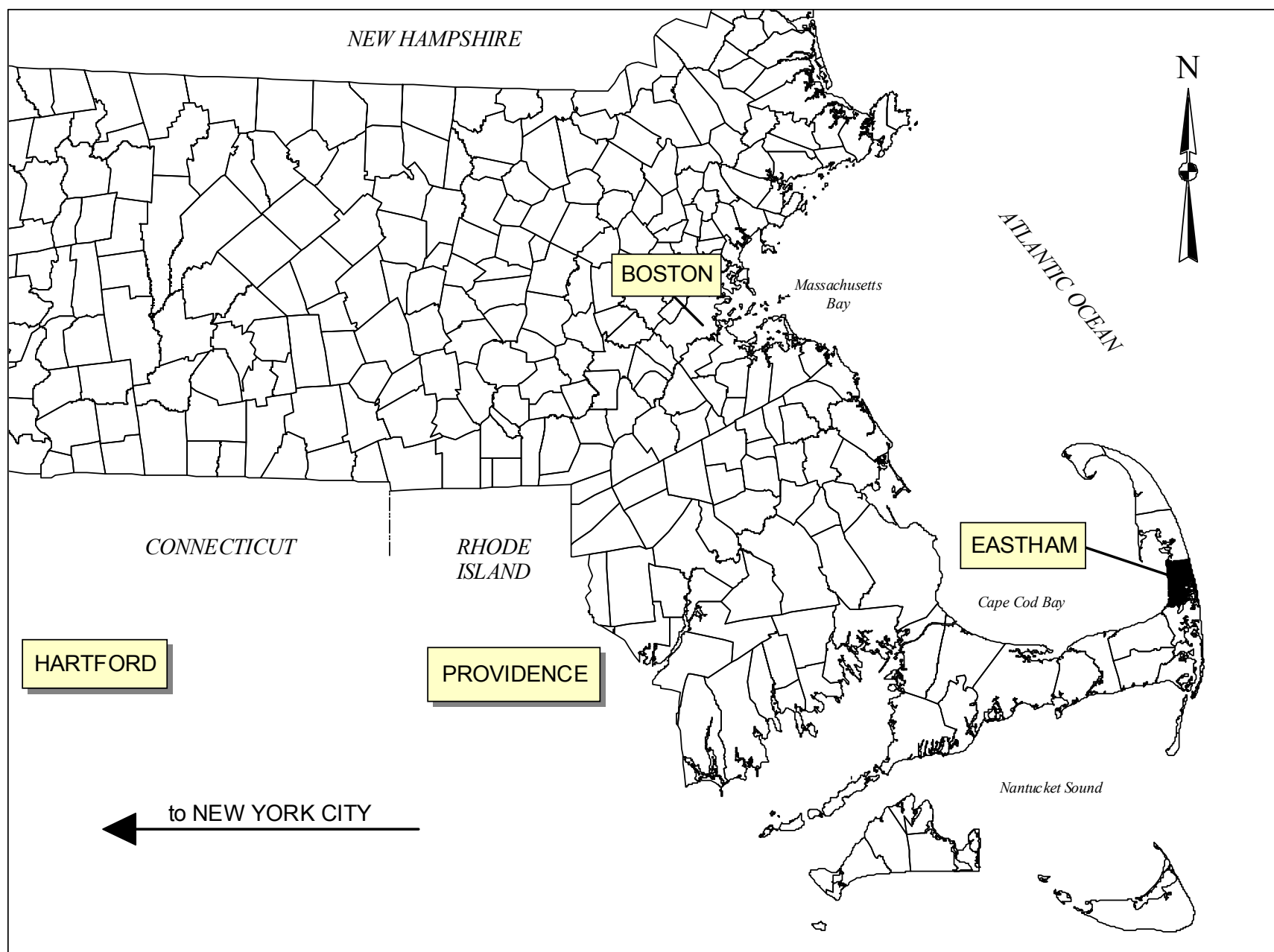
Waterway cut - a ditch or trench dug out so as to connect one body of water with another.

Working waterfront - an area of the shoreline where private/commercial dockage and services are available for vessels, i.e. Rock Harbor as opposed to waterfront shoreline, i.e. Nauset Light Beach.

MAP LIST

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PUBLIC OPINION SURVEY AND WORKSHOP

The Eastham Local Comprehensive Planning Committee conducted a series of public workshops on each of the plan elements and distributed a Community Survey. The following issues were identified in the Community Survey as the three most serious problems facing Eastham today.

The following table indicates the order of priority assessed by the respondents by age group:

Issue	<u>0 - 40 years</u>	<u>41 - 50 years</u>	<u>51 - 65 years</u>	<u>65 + years</u>
Population growth	1	2		
Water quality	2	3	1	2
Cost of service	3			
Education funding		1		
Over development			2	3
Transportation/traffic			3	1

Source: Local Comprehensive Planning Committee Survey

The respondents rated water quality, population growth or overdevelopment and transportation/traffic as the most serious issues facing Eastham. The 41 - 50 age group also identified education as a serious issue, and the 0 - 40 age group identified the cost of services as a serious issue.

Several of the key issues as identified in the community survey (water quality, population growth or overdevelopment, transportation/traffic, education funding and the cost of municipal services) are addressed by goals, policies and recommendations provided in this plan.

Other issues important to the Town identified through a series of public workshops were the following:

To provide for an efficient alternative public transportation system for residents and visitors,

- To limit additional commercial development on Route 6,
- To assist in the creation of additional affordable housing,
- To improve education and employment opportunities,
- To improve the health and human services for local residents,
- To promote appropriate economic development while protecting environmental resources and preserving historic character,
- To improve groundwater and surface water quality,
- To preserve and enhance open space and wildlife corridors,
- To plan for the overall growth and needs of the community, including but not limited to: schools, Town Hall, fire station, transportation and water systems

VISION AND GOALS

The vision, goals and actions recommended in this plan reflect the interests and issues expressed by residents of the Town and the Cape Cod Commission's objectives as stated in the Regional Policy Plan for Barnstable County.

Based on opinions gathered from public workshops, meetings with various Town Boards and civic organizations, the Long Range Planning Advisory Board enunciated the following overall vision statement:

“A diversified community which honors its past as a fishing and agricultural settlement, and current character as a modest residential, community which accommodates workers, vacationers and retirees.”

To achieve this vision, goals and related needs have been articulated to guide the planning process. Each section of the Plan also has goals and performance standards specific to its topic.

Eastham's Overall Goals and Related Needs

- Preserve the historic and rural character of the Town
- Protect/improve water quality and supply
- Ameliorate impact of Route 6 on rural Town character
- Reduce commercial sprawl and improve the appearance of commercial areas (Route 6)
- Improve Town Hall and Brackett Road areas
- Provide affordable year-round housing
- Provide quality service for all residents including schools, recreation facilities, police and fire services
- Improve sewage disposal systems
- Coordinate public and non-profit services
- Protect natural features and open space
- Protect wetlands and plant habitat/wildlife areas
- Encourage recreational and commercial marine activities
- Protect coastal areas from degradation
- Support sustainable economic development, year-round job creation
- Encourage conservation and reduce electric energy consumption
- Encourage the development and coordination of regional public transportation
- Promote and extend, if necessary, postsecondary education opportunities to enhance the Town's human resources

Achieving the Vision

Increases to the populations of Wellfleet, Truro and Provincetown will have impacts on Eastham. These impacts will include increased traffic congestion and safety concerns. The communities of the outer Cape need to review their development potential to determine what projected improvements maybe required to accommodate such growth, and methods of growth management which will help to achieve the vision and goals of each community.

The Eastham Long Range Planning Advisory Board seeks a balanced approach to resolve potential conflicts inherent in achieving the above vision related goals/needs expressed in workshops, such as balancing the need for improved traffic flow and safety along Route 6 with the desire of the Town to protect its historic and rural character. This Plan attempts to build on the historic and current data available, and to prepare a comprehensive framework for future policies which address the issues identified and which will guide the Town for the next twenty years.

POPULATION TRENDS

The population of the Town of Eastham has grown steadily and substantially for many years. More lately, from 1970 to 2000, it has increased from 2043 to 5453. Even during the most recent decade it has grown another twenty-two percent. The special characteristics of Eastham's population have a special impact on the community. The resident population has gotten older. The median age remained fairly steady from 1970 to 1990, increased substantially during the nineties from 41.7 years to 47.6 years. Furthermore, there is a larger and growing seasonal component in the summer population. In 1990 the summer population was estimated to be 21,800 and by 2000 it was conservatively estimated to be 27,500*. This is a twenty-six percent increase as compared with the twenty-two percent increase in the resident population.

These dramatic changes in Eastham's population are supported by increasing income, increased mobility of people, the draw of the National Seashore and other natural attractions as well as by the general appeal of the character of the community.

Such growth and changes in population impacts the use of the land and existing infrastructures. The management of the responses to these developments will determine the extent to which the mission and goals of this plan are achieved.

Table 1: Changes in Eastham's Population

Year	Population	Increase Over Previous Decade	Median Age
1940	582	-	-
1950	860	47.6%	-
1960	1,200	39.5%	37.5+/-
1970	2,043	70.3%	41.1
1980	3,472	69.9%	39.1
1990	4,462	28.5%	41.7
2000	5,453	22.2%	47.6

Source: U.S. Census via Cape Cod Commission

Projections for various neighboring communities are shown in Table 2. The likely impacts felt in the town by this projected growth in population will include increased local and through traffic, demand for additional services, and pressure for additional residential development of conversion from seasonal to year-round homes.

**The summer population is not regularly estimated by a standard method. It consists of several groups of people including year-round residents, summer residents, shorter term guests and more transient weekenders. Of these only the first group is regularly counted. Nonetheless the capacity to house people is limited. Assuming five people per house during a peak summer period plus 1000-1500 in motels the total population is about 25,000. The Eastham Police Department has another estimate of 30,000 from the Town Clerk's office. Thus the adjusted entry of 27,500. The actual summer population on any particular day would likely fluctuate around this number.*

Table 2: Projected Population for the Year 2010 - Selected Barnstable County Towns

			Population Change		Projected Population		
Town	1990 Population	2000 Population	Percent Change	Population Added	2010 Population	Percent Change	Population Added
Brewster	8,455	10,094	19%	1,639	15,623	55%	5,529
Chatham	6,579	6,625	1%	46	8,048	21%	1,423
Eastham	4,462	5,453	22%	991	7,280	34%	1,827
Harwich	10,275	12,386	21%	2,111	17,340	40%	4,954
Orleans	5,838	6,341	9%	503	7,672	21%	1,331
Provincetown	3,561	3,431	-4%	-130	3,549	3%	118
Truro	1,573	2,087	33%	514	2,295	10%	208
Wellfleet	2,493	2,749	10%	256	3,338	21%	589
Lower Cape Sub-Region	43,236	49,166	14%	5,930	65,145	33%	15,979
Barnstable County	186,605	222,230	19%	35,625	275,504	24%	53,274

Source: U.S. Census via Cape Cod Commission

Eastham's population has increased by an additional twenty-two percent or 991 people, between the years 1990 and 2000. The town's population is projected to continue to increase to 7,280 by 2010. Although margins of error attach to all projections, it must be recognized that they are of special importance for forward planning. It should also be noted that the population projection does not account for potential conversion of over 3,000 existing seasonal homes to year-round dwelling units. Although the rates of conversion have not been predicted there is evidence to show that such conversions have been occurring. The United States Bureau of the Census reports that in 2000 more that 43% of all housing units were occupied year-round while in 1990 the comparable ratio was only 49%. There is a movement toward year-round use of housing. This could occur quite easily in view of the fact that there are 246 seasonally used units which are built for year-round use. "Conversion" is a matter of use or occupancy. Other factors which could influence conversions include improved transportation and communications and the continued growth of the surrounding areas. The full conversion of seasonal to year-round housing units would have twice the potential impact on Eastham's municipal infrastructure, services and finances than would result with the complete development of the remaining vacant residential land in town.

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LAND USE/GROWTH MANAGEMENT

Town of Eastham Goals and Performance Standards

The Cape Cod Commission through its Regional Policy Plan for Barnstable County has established overall planning goals and minimum performance standards for Land Use/Growth Management. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan.

- 1.1 Goal:** Encourage sustainable growth and development consistent with the carrying capacity of Eastham's natural environment in order to maintain the Town's economic health and quality of life, and encourage land use which takes advantage of the natural setting, and which provides a pleasant environment for living, working and shopping for residents and visitors.

Minimum Performance Standards

- 1.1.1 Compact forms of development, such as cluster development and, where appropriate, mixed-use residential/commercial development, shall be given preference by the special permit granting authority in order to minimize further land consumption and to protect open space.
- 1.1.2 Creation or extension of strip development shall not be permitted. Reuse, redevelopment, or infill within existing strip developments in a way that does not extend the linear nature of the development or increase traffic conflicts may be permitted.
- 1.1.3 All development and redevelopment in village centers, downtowns, Growth/Activity Centers, and Growth Incentive Zones shall be constructed with the minimum feasible setback from the street in conformity with the setback of adjacent structures in order to encourage village-style development and a more comfortable and secure pedestrian environment.
- 1.1.4 The building and layout of parking lots shall reinforce the character of existing buildings and traditional village streetscape patterns. Parking shall be located to the rear or the side of a building or commercial complex in order to promote traditional village design in commercial areas unless such location would have an adverse or detrimental impact on environmental or visual features on the site, or is unfeasible. Parking structures shall be provided when appropriate to reduce the amount of paved parking areas supporting a proposed development, provided the structure meets the goals of the Commission's design manual, *Designing the Future to Honor the Past: Design Guidelines for Cape Cod, Technical Bulletin 96-001*. The use of shared parking, on-street parking, and community parking lots in village areas, Growth/Activity Centers, and Growth Incentive shall be provided, where feasible, in order to reduce the amount of land devoted to parking.

- 1.1.5 All residential subdivision of five or more lots shall submit a cluster development preliminary plan to the Planning Board during the development review process.
- 1.1.6 Affordable housing should be provided as part of residential and commercial development. Particular attention should be given to locating affordable housing in or near Growth/Activity Centers and Growth Incentive Zones and convenient to transportation corridors.
- 1.1.7 Where appropriate, use of Transfer of Development Rights should be encouraged in order to concentrate development in Growth/Activity Centers and Growth Incentive Zones with adequate infrastructure and to preserve open space in outlying areas.
- 1.1.8 The extension and creation of new roadside “strip” commercial development shall be prohibited. Redevelopment of existing roadside “strip” commercial areas may be considered by the special permit granting authority where substantial positive visual impacts can be shown to result.
- 1.1.9 To protect open space and minimize environmental and community impacts of growth and to promote compact forms of residential and commercial development.
- 1.1.10 All residential subdivisions of five or more lots shall cluster the proposed development unless inconsistent with local bylaws. Cluster plans shall use site designs that maximize contiguous open space, respect the natural topography and character of the site, and employ wastewater treatment alternatives to allow more compact development.
- 1.1.11 All commercial subdivisions of land shall cluster the proposed development unless inconsistent with local bylaws. Cluster plans shall use site designs that maximize contiguous open space, respect the natural topography and character of the site, and employ wastewater treatment alternatives to allow more compact development.
- 1.1.12 Development and redevelopment shall be directed away from Significant Natural Resource Areas as illustrated on the Cape Cod Significant Natural Resource Area Map dated January 10, 2002, as amended.
- 1.1.13 The creation of affordable housing for both ownership and rental should be encouraged through infill, redevelopment or conversion of existing structures and sites, and the creation of accessory apartments. Adequate infrastructure should support these efforts in order to accommodate greater residential density.
- 1.1.14 Appropriate redevelopment and infill within Growth/Activity Centers and Growth Incentive Zones should be encouraged. The development of land in outlying areas should be reduced through downzoning, Transfer of Development Rights, open space purchases, or other techniques.
- 1.1.15 Efforts should be made to improve the appearance of existing strip development through frontage buildings, sign control, infill, relocation of parking, landscaping, and

undergrounding of utilities, consistent with the recommendations of Designing the Future to Honor the Past: Design Guidelines for Cape Cod, Technical Bulletin 96-001.

- 1.1.16 For those areas determined by Local Comprehensive Plans or site assessments to be unsuitable for redevelopment where existing strip development exists, efforts should be made to remove such development, revegetate the site, and put in place permanent conservation restrictions for the purpose of reducing/mitigating the impact of growth, removing traffic conflicts, reducing wastewater impacts, or restoring sensitive resource lands.

- 1.2 Goal:** To preserve and enhance rural land uses, including agriculture, which are environmentally compatible with the Cape's natural resources in order to maintain opportunities to enjoy the traditional occupations, economic diversity, and scenic resources associated with rural lands.

Minimum Performance Standards

- 1.2.1 New development adjacent to rural landscapes and those lands in active agricultural production shall maintain or provide a thickly vegetated buffer of sufficient width to prevent conflicts between the development and existing uses.
- 1.2.2 Development unrelated to agricultural operations shall be designed so as to avoid or minimize development on lands capable of sustained agricultural production as evidenced by soils, recent agricultural use, and/or surrounding agricultural use.

Other Development Review Policies

- 1.2.3 Management practices such as those developed by the Cape Cod Cooperative Extension and the Soil Conservation Service should be encouraged to maintain the productivity of agricultural lands and minimize use of chemical fertilizers and pesticides that could adversely impact the environment.

Existing Conditions

Eastham is a rural residential, predominantly seasonal, community with approximately 5,600 year round residents. The town has experienced moderate growth over the past ten years as seasonal vacation homes became year round retirement homes. These changes have come at some cost to the community, as small scale "cottages" are replaced with large year round homes. The redevelopment of existing lots then, is of far greater concern in Eastham, than new development. There are very few parcels of "buildable" land in Eastham larger than ten acres that could be subdivided; therefore, the future of Eastham will be formed by commercial and residential redevelopment. The map on the following page shows existing land use (Map 1).

Additionally, commercial development in Eastham is located almost exclusively along Route 6 in low-density strip developments. However at two distinct locations, the development takes on the character of a village center; Brackett Road and Route 6 and Samoset Road and Route 6.

The original settlement of Eastham included area that is now the Town of Orleans. Eastham had a north and south parish and in 1797, the more populous south parish split from Eastham to become Orleans. Eastham and Orleans still maintain a functional relationship, with Orleans providing many important commercial services for Eastham and other lower Cape residents.

In the spring of 2000, the Town held a series of “vision” workshops in an effort to get community input on the future of Eastham. There was a general reaffirmation of the 1996 LCP vision:

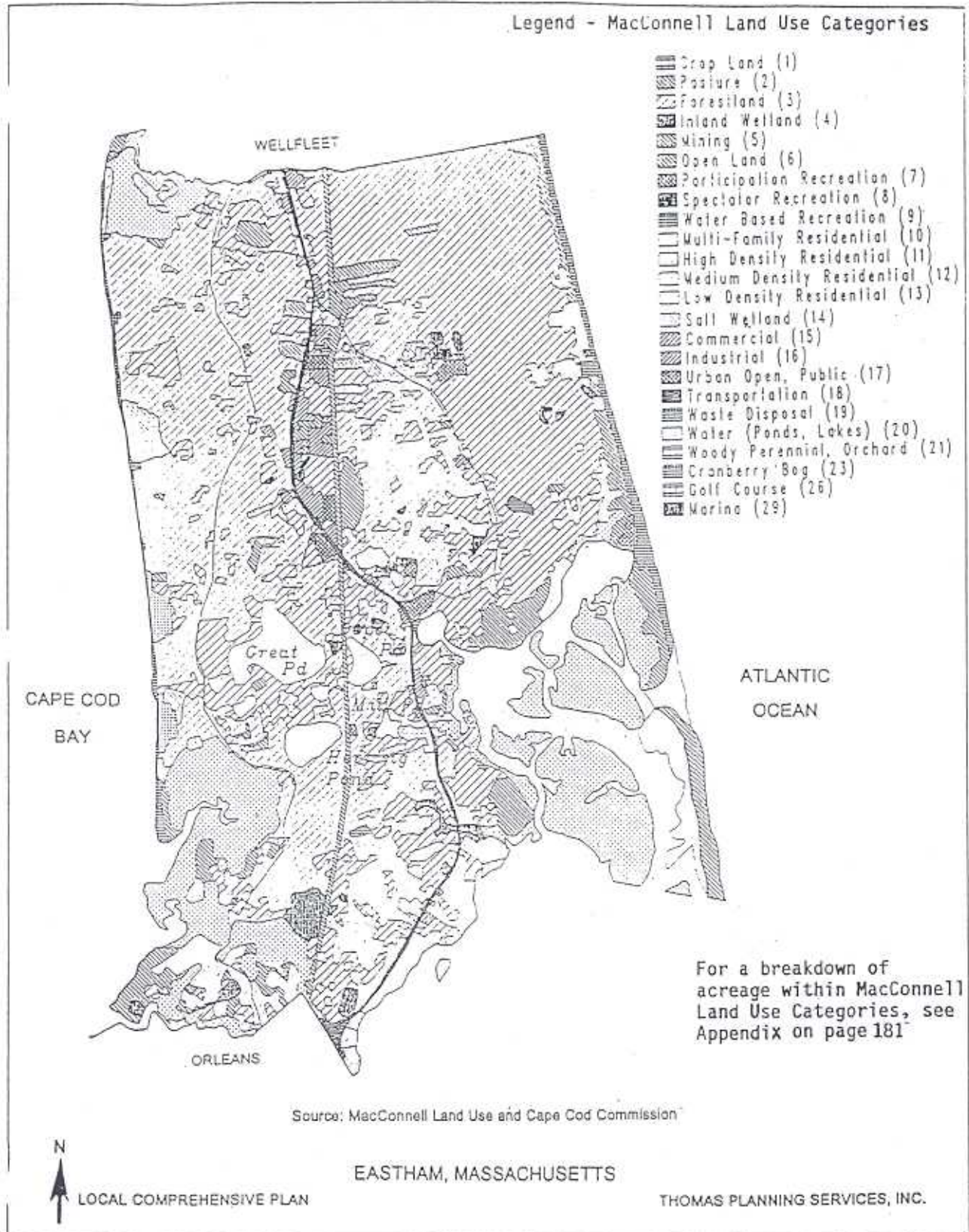
“A balanced diversified community that honors its historic past as a small fishing and agricultural settlement, and current character as a modest residential, working vacation, and retirement community.”

Future Land Use Plan

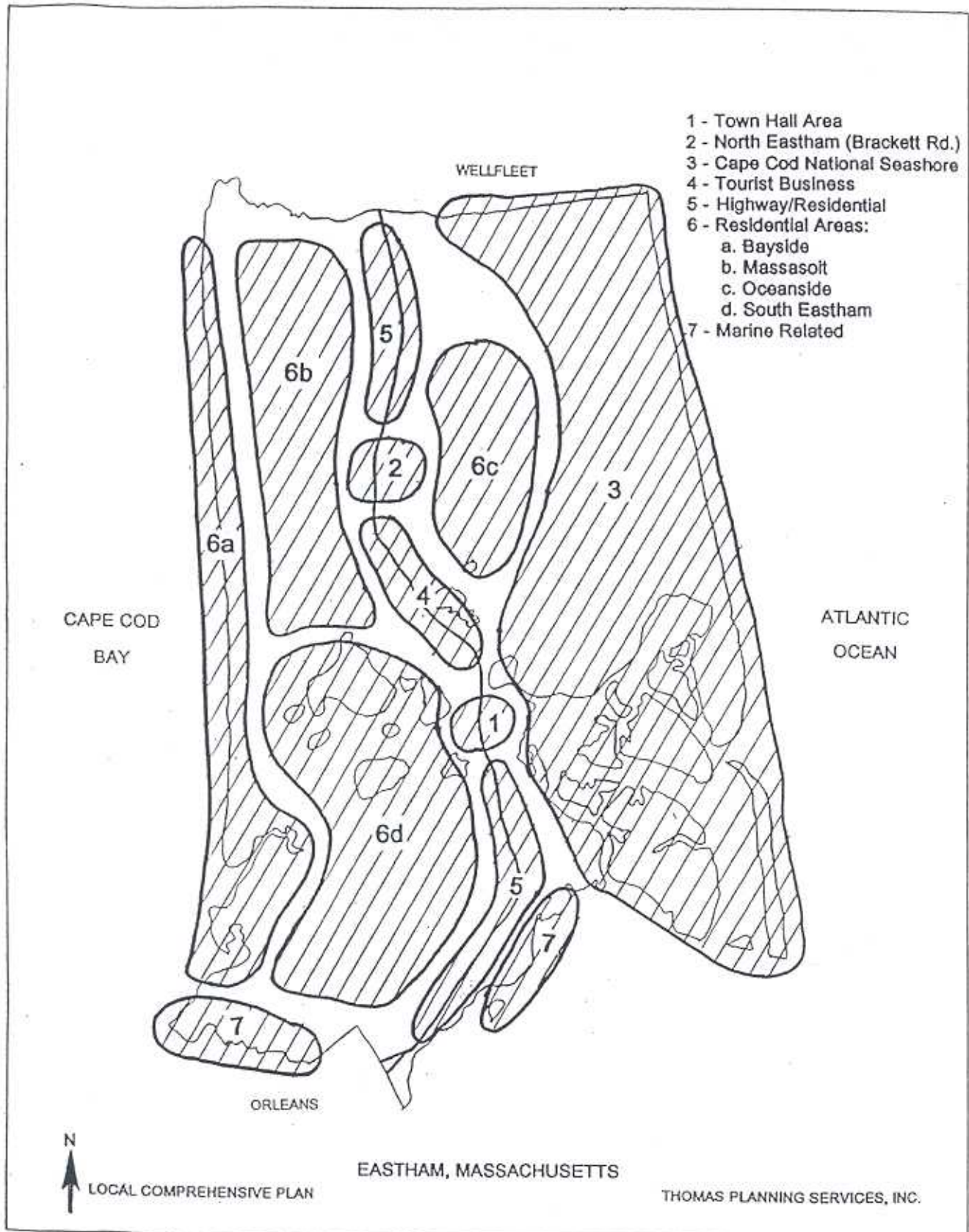
A major problem in Town is the quantity of curb cuts and traffic flow associated with Route 6. This highway bisects the Town while simultaneously providing the only major artery or connecting road for residents. Other problems associated with this route include the visual appearance of existing commercial uses and their associated curb cuts which add to the congestion of traffic primarily during the summer season. (See also "Transportation", "Community Character" and "Implementation" elements).

The series of “vision” workshops held in the spring of 2000 also reaffirmed the general future land use plan of the 1996 LCP. The general distribution of uses in the plan include: residential uses along the western side of town, marine related uses in the southwestern corner, a mix of commercial, institutional and residential along the central axis (Route 6) and the Cape Cod National Seashore to the east. The recommended land use plan is shown in schematic form on the following page (Map 2).

Map 1: Existing Land Use



Map 2: Future Land Use



Major future land use areas include:

Town Hall Area (See #1 on Map 2)

This area, which currently houses most of the Town facilities, including the Town Hall, Police and Fire Departments and the Library, should be maintained as a Town civic area. Non-residential uses tailored to the needs of local residents including those using the Town facilities should be encouraged. Improvements should include enhanced landscaping, undergrounding of overhead utilities, parking, safe access, pedestrian and bus passenger amenities (benches, weatherproof shelters, lighting, trash receptacles, etc.) and pedestrian crossings to create a "pedestrian friendly" atmosphere. During the winter, sidewalks maintained free of snow and ice would also facilitate pedestrian travel. (See also "Transportation")

Brackett Road/Route 6 Area (See #2 on Map 2)

The Brackett Road/Route 6 area currently contains a retail center, an industrial area and a recently extended bikeway access to the Cape Cod Rail Trail. This area has the potential for mixed use and/or residences of slightly higher density. Improvements in the immediate vicinity of the intersection of Brackett Road and Route 6 should include enhanced landscaping, undergrounding of utilities, pedestrian and bus passenger amenities (as in the Town Hall area) and pedestrian crossings. (See also "Affordable Housing", "Transportation" and "Implementation")

Cape Cod National Seashore (See #3 on Map 2)

The Seashore is a major draw for visitors and seasonal residents to the area, and a major preserved recreation area for year round residents. This large portion of Town will see no change except for the possible expansion to include adjacent parcels to be added by gift or purchase, as they become available.

Tourist Business (See #4 on Map 2)

Located north of the Town Hall area, this sector accommodates commercial uses of high volume, such as: restaurants, motels and tourist retail services. Incentives should be developed to reduce the number of highway access points and improve pedestrian and bicycle connections in this area. Landscaping requirements for parking areas and highway frontage should be increased to improve the visual character of this area and to provide a more pedestrian-oriented scale.

Highway/Residential District (See #5 on Map 2)

Located along the southern and northern sections of Route 6, this sector will allow buildings to be used for residence and business, providing the businesses retain Cape Cod architecture, are adequately landscaped, with all parking in the rear.

Residential Areas (See #6 on Map 2)

Existing residential areas, which are most of the remainder of Town, are essentially one neighborhood, but are described and designated on Map 4, primarily for planning purposes. Cluster development should be encouraged in each of these areas, as appropriate, and where adequate land is available.

Marine Related (See #7 on Map 2)

Currently there are areas with landing and related service facilities for residents that should be maintained. The area at Town Cove is proposed as a Working Waterfront Overlay Zone. However, development pressures are forcing changes to that character which strong land use controls may be able to thwart. The town even investigated creating a DCPC in part of the town to impose a moratorium and thereby stop growth pending a full study.

Rate of Development

Table 3 shows building permits issued by type from 1997-2001.

Table 3: Building Permits by Type, 1997-2001

Town-wide	1997	1998	1999	2000	2001	TOTAL
New Residential	96	111	138	93	52	447
Residential renovation	165	209	209	222	422	826
New Commercial			1	1	0	2
Commercial Renovation	<u>6</u>	<u>1</u>	<u>3</u>	<u>2</u>	<u>7</u>	<u>12</u>
TOTAL	267	321	351	318	481	1,287

One can see a significant decline in new construction while renovations remain incredibly strong. The vision workshop concluded that many of those renovations resulted in “trophy homes” or “starter castles” totally inconsistent with existing community architectural character.

Over the last twenty-five years, the amount of developed land has increased the amount of land devoted to residential development has increased nine-fold, from 340 acres or 3.7 percent of the Town in the late 1960s to more than 4,700 acres or 51% percent of the Town today. The most significant change is from 1991 when 42.8% of the land was developed to 2000 when 51.9% was developed. The annual average rate of conversion from 1960-1991 was 105 acres per year. Between 1991 and 2001 that rate changed to 114 acres per year.

Table 4: Land Use by Acreage and Percentages, 1991 and 2000

Category of Use	1991 Acres	Percentage of Town	2000 Acres	Percentage of Town
Developed Land:				
Mixed Use (Residential/Commercial)	114.0	1.2%	91	1.0%
Residential	3,006.0	33.0%	3542	38.8%
Commercial	105.0	1.2%	98	1.1%
Industrial and Utilities	30.0	0.3%	35	0.4%
Exempt Property (Institutional)	644.0	7.1%	973	10.7%
Total Developed Land	3,899.0	42.7%	4739	51.9%
Undeveloped Land:				
<i>Developable</i>				
- Residential	962.0	10.5%	350	3.8%
- Commercial	38.0	0.4%	29	0.3%
- Industrial	25.0	0.3%	23	0.3%
<i>Undevelopable</i>				
- Residential	363.0	4.0%	253	2.8%
- Commercial	0.5	0.0%	4	0.0%
- Industrial	1.0	0.0%	1	0.0%
Open Space-Residential	23.0	0.3%	0	0.0%
Chapter 61 (Forest, Agric., Recreational)	97.0	1.1%	20	0.2%
Total Undeveloped Land	1,509.5	16.6%	680	7.4%
Cape Cod National Seashore	3,000.0+/-	32.9%	3,000.0 +/-	32.9%
Roads and Water Bodies	712.0 +/-	7.8%	712.0 +/-	7.8%
Total	9,120.5	100.0%	9,131.0	100.0%

Source: Town of Eastham Assessors Files, 2002

This intensity of development and the related pressure placed on the Town have been dramatic. In addition, neighboring towns have also experienced similar development that has affected daily life as in Eastham. Added tourism, especially related to the Cape Cod National Seashore and an increase in commercial development in Orleans have also contributed to an increase in both through and local traffic, especially along the Route 6 corridor.

Non-residential uses are predominantly commercial and situated along Route 6. They are principally in the form of restaurants, inns or motels, professional offices, public facilities, nurseries, gas service stations and storage facilities. These uses comprise only one hundred and thirty-five (135) acres, primarily located along Route 6 with corresponding level of service and safety impacts. Many of the commercial developments are designed in the roadside "strip" single story building style with no consistent appearance. Some have purposely retained a residential scale and style appropriate to the Town. There is an industrial district located off Brackett Road and a small district for marina-related uses to accommodate residential boating and fishing needs located in the southern-most point in Eastham along the Bay.

Vacant Land/Buildout

Population projections look at trends in births, deaths, and migration. These trends are useful in estimating short-term growth within a community. A buildout projection is a means of checking a community's zoned development potential to see if full development fits within the natural/manmade environment, capacity constraints and the community's vision of what it wants to become. The Buildout projections in 1996 are shown on the table below. Also shown is the 2001 Actual.

Table 5: Buildout Projections

<u>Residential</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>	2001 Actual <u># of Units</u>
Additional residential units	733	1,150	1,781	
Total residential units at buildout	5,464	6,000	6,512	5,699
<u>Non-residential</u>				
Retail (sq. ft.)	500,000	562,121	N/A	130
Industrial (sq. ft.)	327,000	367,343	N/A	24
Total Commercial (sq. ft.)	827,000	929,270	N/A	<u>5,853</u>

Low projection prepared by Thomas Planning Services based on 70% of the total land area (adjusted for wetlands by assessors code, does not include large lots with additional development potential).

Medium projection prepared by CCC based on 78% of the total land area (adjusted for wetlands by site inspections, includes large lots with additional development potential).

High Projection prepared by Land Use Inc., based on 90% of the total land area (not adjusted for wetlands, includes large lots with additional development potential).

As can be seen projections assume steady trends. The Cape Cod demographic has never been steady as housing prices, and retirement rates reflect U.S. and world wide economic factors more than local issues. The rate of progress toward buildout then may be accelerated by not measured or measurable for a projection model.

The Cape Cod National Seashore, authorized by Congress in 1961, comprises one-third of Eastham (3,000 acres), including nearly all of its six and one-half mile Atlantic shoreline, from Orleans to Wellfleet. More than one hundred privately owned residential dwellings exist within the Seashore, most of which were constructed prior to the Seashore's creation. The Town also owns 25 acres located on the Atlantic Ocean between Coast Guard and Nauset Light Beaches. Town Meeting recently supported the creation of a town owned beach on this land with 300 parking spaces and facilities. That project is anticipated to be complete by summer 2003.

Zoning Controls

The Town has already taken a number of steps to protect its natural resources, preserve its present land use pattern and prevent the continuation of strip development. Much remains to be done to balance the town's preservation desires against the commercial needs, and the need for affordable housing.

Residential: There are approximately 1,200 acres of vacant developable land and land with the potential for additional development. The potential residential buildout for Eastham under the current zoning is approximately 1,150 additional housing units resulting in a total of 6,000 units at buildout. Over the last 25 years Eastham has averaged 103 new housing units per year. Using that average rate, Eastham could reach residential buildout in 2006. If the average annual rate for the last 5 years of 58 units/year were used, Eastham would reach residential buildout in 2015. In either case the residential buildout is not far in Eastham's future. The buildout figures do not account for approximately 400 grandfathered lots that are below the current zoning requirements but are protected under MGL.Ch.40A. While these grandfathered lots could be built without regard to current zoning, they are subject to other town Bylaws or regulations, which in combination with the lack of sewer or water service will reduce that number considerably.

Non-residential: There are approximately 37 acres of commercial land and 25 acres of industrial land available for development. If all the land is used, there could be eleven and one-half (11.5) acres or about five hundred thousand (500,000) square feet of gross floor area of commercial development and seven and one-half (7.5) acres or about three hundred and twenty-seven thousand (327,000) square feet of gross floor area of industrial development. It should be noted that most of the vacant industrial land has limited access at this time.

Impacts of Anticipated Residential Growth

There are a number of additional impacts Eastham can anticipate with the expected increase in residential development and associated increase in population as shown below in Table 3. Table 3 provides the following information: existing conditions (60% seasonal/40% year-round) in the first column, a full buildout of vacant residential land with an increase in the conversion of seasonal units (40% seasonal/60% year-round) in the second column, and a full buildout of all vacant land with 100% year-round units) in the last column.

Table 6: Anticipated Growth Impacts on Selected Town Services

<u>Impacts</u>	<u>Existing</u> (60%/40%)	<u>Build-out</u> (40%/60%)	<u>Build-out</u> (100%)
Number of year-round residential units**	2,308	3,600	6,000
Number of households**	1,908	3,200	5,600
Number of year-round persons per household (2.34 persons)**	4,460	7,488	13,104
Number of school children (14.5% of population)**	648	1,085	1900
Number of classrooms (4 per 100 students)	25	43	76
School Personnel (5 per 100 students)	32	54	95
Gallons of water per day (100 per capita)	210,800	360,000	600,000

** Based on 1990 U.S. Census data

After reviewing Tables 2 and 3 major questions which arise include whether projected future development will change the character of Eastham, and how the Town will pay for the increased demands placed on municipal services by the development of the remaining vacant land and the possible conversion of seasonal to year-round housing units. Because of the configuration of the Town and its existing land use pattern, traffic problems along Route 6, fiscal constraints, lack of sewers, and the overall desire not to designate a growth center, the Town has a limited number of options for meeting the goals of the Plan.

Recommended land use and zoning options incorporated into this section of the Plan include:

- Decrease development intensity in sensitive areas;
- Develop regulations which address the rate, amount and impact of seasonal to year-round conversions;
- Continue to refine the Zoning By-laws, especially for commercial zones;
- Consider the use of a growth cap on the rate of residential construction;

Decreasing intensity in sensitive areas will involve not only prohibiting new development in such areas, but also prohibiting expansion or rebuilding. Sensitive areas may include lands in watershed protection areas, beach property and critical habitat areas identified in the "Natural Resources" section of this plan. Conversion rate regulations may be the most difficult to draft as there are not many existing examples in Massachusetts. However the town recently (7/26/01) passed a zoning by-law requiring a special permit when redevelopment will result in a significant increase in habitable space. This approach may in the long term have more of an impact than decreasing the density of the remaining vacant residential land. Refining the zoning bylaws will help to improve the appearance of and reduce traffic conflicts within commercial areas.

The Regional Policy Plan defines three types of Growth/Activity Centers, Village, Regional and Industrial. The village model focuses on pedestrian oriented residential and small scale commercial. The regional model focuses on densely developed commercial with some higher density residential. The Industrial model focuses on typical industrial uses, manufacturing and wholesaling. Each of these models requires a specific level of infrastructure development and community support services. Based on that fact the most suitable growth activity centers for the Town are the village and a "modified" industrial center.

Implementation

Joint Commission/Town Actions

- A. The Commission will assist in mapping natural and cultural resource constraints, existing development and infrastructure, and undeveloped land in order to identify appropriate areas for designation as village, regional, and industrial Growth/Activity Centers and Growth Incentive Zones. The towns, in consultation with the Commission and as consistent with their Local Comprehensive Plans, should work toward designating village and regional Growth/Activity Centers and Growth Incentive Zones for the purpose of concentrating growth that would otherwise occur in outlying areas. Growth/Activity Centers and Growth Incentive Zones should be supported by wastewater and other infrastructure that allows for higher densities, and should be coordinated with the Regional Infrastructure and Facilities (RIF) Plan to be developed by the Cape Cod Commission and the towns (see Chapter 4.4). Use of shared or neighborhood denitrifying systems in parallel with clustering development provides opportunities to direct growth to more appropriate locations and gain increased open space and environmental benefits.

- B. Eastham and the Commission should undertake a major initiative to address the implementation of Local Comprehensive Plans through changes in zoning and other local regulations.

Recommended Town Actions

- A. Develop cluster bylaws or ordinances consistent with the Commission’s model bylaw/ordinance that require cluster development at the town’s option. Towns should also adopt cluster provisions for commercial and industrial subdivisions.
- B. Local zoning and regulations, including but not limited to lot sizes, parking requirements, undergrounding of utilities, setbacks, and road widths, should be revised to permit village-style and mixed residential/commercial uses. Such development should be located in areas served or planned for service by appropriate wastewater treatment systems and other infrastructure.
- C. Local bylaws and regulations, including clustering, increased lot sizes, overlay districts, and other techniques are encouraged to foster preservation of all areas located outside of Growth/Activity Centers and Growth Incentive Zones.
- D. Consider making appropriate town-owned land available for agriculture, open space, and clustered affordable housing.

The following action items are advanced to achieve one or more of the goals of this section. Recommendations are broken down into zoning actions, subdivision actions, and other actions designed to address land use and growth management issues within the Town.

Zoning Actions

Eastham should:

- Adjust its zoning to accommodate recommendations of the land use plan, e.g., adopt a Highway Residential District and a Working Waterfront Overlay Zone.
- Amend the zoning bylaws to allow for mixed-use developments in the Highway-Residential District.
- Augment performance standards, e.g. for lighting, noise, and odors by revising the zoning bylaws.
- Amend the zoning bylaws to add language on curb cut control and develop a comprehensive curb cut strategy for Route 6. This strategy should be closely coordinated with the Cape Cod Commission and Massachusetts Highway Department to complement the planning activities of these entities.

- Revise the zoning bylaws for building and parking setback and landscaping requirements for commercial developments.
- Study the possibility of working with N/Star and the state and consider funding of undergrounding of utility lines along town roads or on town-owned land in any area where the required poles, wires, cables, aerial transformers and other related electrical and telecommunications equipment are deemed visually intrusive and/or a safety hazard.
- Revise and reformat the Zoning bylaws and develop a Table of Use Regulations and a Table of Dimensional Requirements.
- Amend the Zoning bylaws to establish a multi-category threshold that would trigger special permit review of large/high traffic generating commercial and mixed-use developments.
- Amend the Zoning bylaws to create a definition of “strip” development and make it a prohibited use in the table of use regulations.
- Develop a zoning amendment that provides incentives for shared access to developments by way of zero side lot lines or reduced parking requirements.
- Revise Section IX, B setback requirements and Section XI landscaping requirements to provide for thickly vegetated buffers.
- Prepare plans for the Town Hall and Brackett Road areas, to include sidewalks, footpaths, parking, pedestrian crossing, traffic mitigation, lighting, landscaping and undergrounding of overhead utilities.
- Develop a comprehensive land use strategy to address existing and future traffic conflicts along Route 6. This strategy should minimally include exploring the following:
 - Purchasing vacant land as protected open space
 - Increasing lot frontage requirements on Route 6
 - Increasing lot sizes for residential development on Route 6
 - Strict limits for lot coverage for commercial uses on Route 6 with incentives for shared curb cuts with adjacent residential properties
 - Measures to limit buildout in the Route 6 Corridor, such as rezoning commercial areas for low density residential uses
 - Creating greater incentives for infill and redevelopment in areas where coordinated access can be provided
 - Consideration of a Transferable Development Rights system as a means to relocate existing, poorly sited commercial development, and better accommodate future development potential in the corridor (using the Commission’s model bylaw).

- Explore aggressive regulatory measures to limit conversion of seasonal homes to year round uses on small lots, including revising Board of Health regulations to prevent the intensification and increase in size of existing homes being converted.
- Explore measures to limit buildout throughout the Town including: downzoning, land acquisition, a residential Transferable Development Rights as a means to send residential development to proposed mixed-use centers where residential units, including affordable units, could potentially more effectively be served by advanced wastewater systems and public transit.

Subdivision Actions

The planning Board should:

- Amend its subdivision rules and regulations to take advantage of the three open space dedication provisions in MGL, Ch.41 Subdivision Control Law.
- Amend its subdivision rules and regulations to require the submitting of a preliminary cluster plan for new development of five or more lots.
- Amend its subdivision rules and regulations to require natural drainage designs with buffers to wetlands.
- Amend its subdivision rules and regulation to require separate drainage lots and access ways to drainage areas.
- Amend its subdivision rules and regulations to require plan sheets showing regrading, landscaping and erosion control methods to be used on the property.

See “Land Use”, “Capital Facilities and Infrastructure” and “Transportation” in Implementation section.

NATURAL RESOURCES - WATER RESOURCES

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for water resources. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan.

- 2.1.1 Goal:** To maintain the overall quality and quantity of Eastham's groundwater to ensure sustainable supply of untreated high-quality drinking water and to preserve and restore the ecological integrity of marine and fresh surface waters.

Minimum Performance Standards

Classification System and Minimum Performance Standards: The Regional Policy Plan establishes a water resources classification system to manage and protect Cape Cod's water resources. The water resources classification system recognizes four primary water resource areas and their respective recharge areas: Wellhead Protection Areas, Fresh Water Recharge Areas, Marine Water Recharge Areas, and Potential Water Supply Areas. The classification system also recognizes areas where water quality may have been impaired from existing development or where water quality is unusually pristine. Where these areas overlap with any of the resource areas above, improvement or preservation of water quality is a major goal.

- 2.1.1.1 Except as otherwise specified in the classification system below, all development and redevelopment shall not exceed a 5-ppm nitrogen loading standard for impact on groundwater based on the methodology contained in Cape Cod Commission Nitrogen Loading Technical Bulletin 91-001.
- 2.1.1.2 All development and redevelopment shall comply with the Minimum Performance Standards outlined in the following water resources classification system. If a property is located where two classifications overlap, the more stringent standards shall apply. The water resources classification system is illustrated on the Cape Cod Water Resources Classification Maps I and II, dated January 10, 2002, in the Regional Policy Plan, as amended and described below:

A. Wellhead Protection Areas: Consist of areas that contribute groundwater to existing public and community water supply wells. These areas shall be delineated by a consistent method and recognized by the Commission in conjunction with state standards for Zone IIs (as defined in 310 CMR 22.02).

1. The maximum loading standard for nitrogen impact on groundwater shall be 5 ppm for development and redevelopment unless a cumulative impact analysis indicates a more stringent loading standard is necessary.

2. Development and redevelopment that involves the use, treatment, generation, storage, or disposal of hazardous wastes or hazardous materials, with the exception of household quantities, shall not be permitted.
3. Public and private sewage or treatment facilities with Title 5 design flows greater than 10,000 gallons per day shall not be permitted in these areas, except as provided in subsection E.2 below and subject to Minimum Performance Standards 2.2.1 through 2.2.5.
4. Uses prohibited in Zones II by state regulations shall not be permitted in these areas.
5. Development and redevelopment shall adopt a turf and landscape management plan that incorporates water conservation measures and minimizes the amount of pesticides and chemical fertilizers through best management practices.

B. Fresh Water Recharge Areas: Consist of recharge areas to freshwater ponds as mapped by a standard hydrogeologic assessment or other method acceptable to the Commission.

1. In order to limit phosphorus inputs, no subsurface disposal systems shall be permitted within 300 feet of maximum high water of freshwater ponds, as determined by the high groundwater adjustment methodology in the Commission's Technical Bulletin 92-001, unless the applicant demonstrates by a groundwater study that groundwater from the site does not discharge into the pond or a tributary.
2. Development and redevelopment may be required to delineate the groundwater recharge areas to potentially affected freshwater ponds and conduct a phosphorous loading assessment in order to identify and mitigate the project's adverse impacts. For ponds where pond management strategies have not been developed or implemented, DRIs may be required to make a monetary contribution toward the development or implementation of appropriate assessment work or management strategies.
3. Public and private sewage treatment facilities may be used within Fresh Water Recharge Areas subject to subsection E.2 and Minimum Performance Standards 2.2.1 through 2.2.5 below.

C. Marine Water Recharge Areas: Consist of recharge areas to marine embayments as mapped by the Commission, on Cape Cod Water Resources Classification Map II dated January 10, 2002, as amended.

1. In watersheds where the critical nitrogen load has been determined, development and redevelopment shall not exceed the identified critical nitrogen-loading standard for impact on marine ecosystems. In watersheds where the critical nitrogen load has

not been determined, development and redevelopment shall be required to make a monetary contribution to determine the flushing rate of the embayment in order to calculate the critical nitrogen-loading rate. DRIs may be required to make a monetary contribution toward the development or implementation of appropriate nitrogen management strategies.

2. In watersheds where existing watershed development exceeds identified critical loading standards or where there are documented marine water quality problems in the associated embayment, including, but not limited to, those embayments shown on the Cape Cod Water Resources Classification Map II, development and redevelopment shall maintain or improve existing levels of nitrogen loading. This may be achieved by providing wastewater treatment for the development or redevelopment and additional treatment capacity for nearby land uses, installation of alternative denitrifying technologies for existing septic systems in the recharge area, and/or an equivalent contribution towards a municipal or watershed effort that achieves the intent of a “no net increase” policy.

3. In watersheds with Commission-approved watershed nutrient management plans, nitrogen loading from development and redevelopment shall attain the nitrogen loading limit specified by the plan, but in no case shall nitrogen loading exceed 5 ppm.

4. Public and private sewage treatment facilities may be used within Marine Water Recharge Areas subject to subsection E.2 and Minimum Performance Standards 2.2.1 through 2.2.5 below.

D. Impaired Areas: Consist of areas where groundwater may have been degraded by point and non-point sources of pollution, including but not limited to areas with un-sewered residential developments where lots, on average, are less than 20,000 square feet; landfills, septage, and wastewater treatment plant discharge sites; and high-density commercial and industrial areas and those down-gradient areas where the groundwater may have been degraded by these sources. For the purpose of these standards, all certified Growth/Activity Centers and Growth Incentive Zones shall be classified as Impaired Areas.

1. Development and redevelopment shall generally meet a 5-ppm nitrogen loading standard for impact on groundwater, but the standard may be increased where it can be demonstrated to the Permitting Authority and the Commission that such increase will cause no adverse impact on ponds, wetlands, marine waters, public or private drinking water supply wells, and potential public water supply areas as identified in Section F below.

E. Water Quality Improvement Areas: Consist of Impaired Areas that are located within Wellhead Protection Areas, Fresh Water Recharge Areas, and Marine Water Recharge Areas. In such areas, improvement of water quality is a major goal.

1. Development and redevelopment shall not exceed the nitrogen loading standards for Wellhead Protection Areas or an identified marine water quality standard as applicable. Where existing development within the watershed exceeds the identified loading standard or where there are documented marine water quality problems, there shall be, at a minimum, no net addition of nitrogen loading from development and redevelopment.
2. Use of public and private sewage treatment facilities shall be as follows: Within Water Quality Improvement Areas that are in Wellhead Protection Areas public and private sewage treatment facilities may be used to remediate existing problems; within Water Quality Improvement Areas that are in Fresh Water and/or Marine Water Recharge Areas, public and private sewage treatment facilities may be used in conjunction with any development or redevelopment. Sewage treatment facilities and their collection and discharge areas shall maintain the hydrologic balance of the aquifer and demonstrate that there are no negative ecological impacts to surface waters. All such facilities shall be subject to Minimum Performance Standards 2.2.1 through 2.2.5 below.
3. Development and redevelopment in Growth/Activity Centers and Growth Incentive Zones within Water Quality Improvement Areas which have been identified as requiring comprehensive wastewater treatment solutions may be required to provide a monetary contribution towards community wastewater facility planning or implementation efforts.

F. Potential Public Water Supply Areas: Consist of areas which have been identified by the Commission on the Cape Cod Water Resources Classification Map I dated January 10, 2002, as amended, and future well sites and their associated recharge areas which have been identified by towns, water districts, or private water companies. Potential Public Water Supply Areas may be removed from consideration provided that supporting information demonstrates to the Commission demonstrating that they will not be considered as potential water supply areas.

1. No development shall be permitted within 400 feet of an identified future well site.
 2. The maximum nitrogen-loading standard for Potential Public Water Supply Areas shall be 1 ppm for development.
 3. Within an identified Potential Public Water Supply Area, the same standards A.2 to A.5 apply as in Wellhead Protection Areas above.
- 2.1.1.3 Development and redevelopment shall identify their proposed wells and existing private wells on abutting properties within 400 feet and assess the impact of the development on the water quality of these wells and all other existing wells that may potentially be affected by the proposed development. Septic systems and other sources of contamination shall be sited to avoid contamination of existing or proposed wells.

- 2.1.1.4 Conversion from seasonal to year-round uses in FEMA flood A-zones or within 100 feet of wetlands shall demonstrate that the project will not have adverse impacts on groundwater or adjacent surface waters and wetlands.
- 2.1.1.5 Developments of Regional Impact which withdraw more than 20,000 gallons of water per day shall demonstrate through a groundwater study that the project will not have adverse impacts on groundwater levels or adjacent surface waters and wetlands. The study shall include mapping of surface water morphology and comparison of existing and affected water-table fluctuations.

Other Development Review Policies

- 2.1.1.6 Water withdrawals and wastewater discharges should be managed so that they do not adversely affect surface water resources, wetlands, private wells, or the safe yield of the aquifer.
- 2.1.1.7 Development and redevelopment should use water-conservation technologies or other strategies to obtain a 40% reduction of water use.
- 2.1.1.8 Development and redevelopment should utilize alternatives to synthetic chemical fertilizers and pesticides in favor of organic and biological methods.
- 2.1.1.9 Development and redevelopment should increase aggregation and improve the level of treatment of existing wastewater flows.
- 2.1.1.10 Development and redevelopment should attain greater groundwater or surface water protection than provided for in the Minimum Performance Standards.
- 2.1.1.11 Development and redevelopment should attain zero discharge of wastewater through non-water-based waste treatment technologies or reuse of wastewater for irrigation.
- 2.1.1.12 Development and redevelopment should submit Chapter 21E site assessments or other water quality information indicating the condition of the site relative to hazardous waste.
- 2.1.1.13 Development in USGS-identified Potential Water Supply Areas should be avoided.
- 2.1.1.14 Development and redevelopment in Water Quality Improvement Areas subject to Marine Water Recharge Areas should seek to reduce nitrogen loading by providing for the removal of 2 kilograms of nitrogen for each kilogram added.
- 2.1.1.15 The development of public or community water supply systems should be encouraged for areas serviced by private wells in Impaired Areas.

- 2.1.2 Goal:** To encourage the use of public and private sewage treatment facilities in appropriate areas where they will provide environmental or other public benefits and where they can be adequately managed and maintained.

Minimum Performance Standards

- 2.1.2.1 Private treatment facilities may be constructed only if there are no feasible public treatment facility options available within three years of the proposed date of construction of a project.
- 2.1.2.2 All public and private sewage treatment facilities shall be designed to achieve tertiary treatment with denitrification that meets a maximum 5-ppm total nitrogen discharge standard either through advanced treatment to achieve 5 ppm in the effluent or 5 ppm in groundwater at the down-gradient property boundary.
- 2.1.2.3 The construction of private sewage treatment facilities (PSTFs) shall not allow development to occur at a higher density than would be allowed by local zoning.
- 2.1.2.4 The construction of PSTFs shall be consistent with municipal capital facilities plans where they exist. Municipalities shall have the opportunity to assume ownership and maintenance responsibilities for such facilities where desired by the municipality.
- 2.1.2.5 PSTFs shall not be constructed in FEMA V-zones and floodways, Areas of Critical Environmental Concern (ACECs), wetlands and buffer areas, barrier beaches, coastal dunes, or critical wildlife habitats. PSTFs may be constructed in FEMA A-zones only to remediate water quality problems from existing development within such A-zones and consistent with Minimum Performance Standards 2.2.2 and 2.2.6, except as provided in Minimum Performance Standard 2.2.11.
- 2.1.2.6 The long-term ownership, operation, maintenance and replacement of PSTFs shall be secured as a condition of approval in accordance with Commission, state, and local guidelines.
- 2.1.2.7 Applications for approval of public and private sewage treatment facilities shall include a plan for sludge disposal.

Other Development Review Policies

- 2.1.2.8 When allowing additional development in areas where existing high-density development or large numbers of failing septic systems have led to public health or water quality problems, the Commission and/or Eastham may require PSTFs or DEP-approved alternative systems with enhanced nitrogen removal to be installed as a remedial measure.

- 2.1.3 Goal:** To protect the overall water quality of the aquifer and its resources by providing adequate storm water management and treatment.

Minimum Performance Standards

- 2.1.3.1 New direct discharge of untreated storm water, parking-lot runoff, and/or wastewater into marine and fresh surface water and natural wetlands shall not be permitted.
- 2.1.3.2 Storm water shall be managed and infiltrated on site to minimize runoff and maximize water quality treatment. Storm water treatment designs shall be based upon a 25-year 24-hour storm and attain 80% total suspended solids removal and at a minimum be consistent with Massachusetts Storm water Policy Guidelines.
- 2.1.3.3 Development and redevelopment shall use best management practices such as vegetated swales and non-structured wetland detention basins for treatment prior to infiltration. Non-structured wetland detention basins and vegetated swales may be counted as open space within Wellhead Protection Areas.
- 2.1.3.4 Structured detention basins, infiltration basins and galleries may be used in Growth Incentive Zones provided that Minimum Performance Standards for storm water are met.
- 2.1.3.5 Infiltration basins or other storm water leaching structures shall maintain a two-foot separation between maximum high water table and point of infiltration.
- 2.1.3.6 Development and redevelopment shall submit a storm water maintenance and operation plan for approval by the Commission. The plan shall, at a minimum, include a schedule for inspection, monitoring, and maintenance and shall identify the party responsible for plan implementation.
- 2.1.3.7 In Wellhead Protection Areas, storm water systems for land uses which have a high risk of contaminating groundwater, such as vehicle maintenance areas and loading docks, shall install mechanical shut-off valve or other flow-arresting device between the catch basin or other storm water-capture structure draining this area and the leaching structures.

Existing Conditions

The Lower Cape Water Management Task Force between 1992 and 1998 studied the water supply and demand situation on outer Cape Cod. The Task Force's final report summarizes a wealth of data about water quality and quantity in Lower Cape towns, which was collected in this and some previous studies. The study demonstrated that most private wells in the area provide good quality drinking water, but that the increasing development density negatively influences the quality. Cross-contamination, whereby effluents from nearby contamination

sources intercept wells, often causes problems. Current and future water demands were assessed, and criteria for siting potential public water supply wells were developed.¹

Eastham's Water Supply System: Eastham is fortunate to be essentially the sole user and major beneficiary of the Lower Cape aquifer's Nauset Lens (Map 3). The northern-most reaches of the Lens are shared with Wellfleet and are used by the National Park Service to provide water for their headquarters area. Route 6 is seen to traverse the crest of this lens, which has a maximum water table elevation of 17 feet above mean sea level. With groundwater flows that are generally perpendicular to the lens' contour lines, this location makes the Route 6 corridor particularly hazardous with respect to the wide dissemination of contamination. That a large number of small volume wells are located within this corridor may have significant implications for economic sustainability if contamination from a variety of potential sources leads to their failure.

Water Delivery System: Eastham's water delivery system consists entirely of private wells. Most of these are on-site domestic water supply wells drawing about 200 gallons per day (gpd). Some are Small Volume Wells, serving various businesses, condominiums, and office buildings for which the withdrawal volumes can be substantially larger.² Currently, there are known to be 50 such wells of which seven (7) are non-transient/non-community public water supply systems, and 43 are transient/non-community public water supply systems. Only a few services near the Orleans town line are connected to the Orleans public water supply.

Septage Disposal: No areas of Eastham are currently served by public sewers. Only on-site sewage disposal systems are used throughout the town, varying from cesspools to Title V septic systems. In recent years, a number of Alternative Septage Treatment installations have been deployed to reduce nitrate nitrogen concentrations in effluent discharges. Eastham is a member of the Tri-Town Septage Treatment facility located in Orleans serving Eastham, Orleans, and Brewster. Much of Eastham's pumped sewage is processed here.

Potential Well Sites: Two potential sites have been identified for development of municipal water supply wells should such service become necessary.³ These sites are identified on figure WR-2 and located in Water Resource Protection Zoning District "G", and located in Well-field Protection Zoning District "H". District G lies in an area containing several town-owned "woodlot" parcels, and is relatively unthreatened by other land uses. District H lies in ca.120 acres of town-owned land, which was tested in 1970 as a possible municipal well-field site with a potential yield of 1 million gpd.⁴

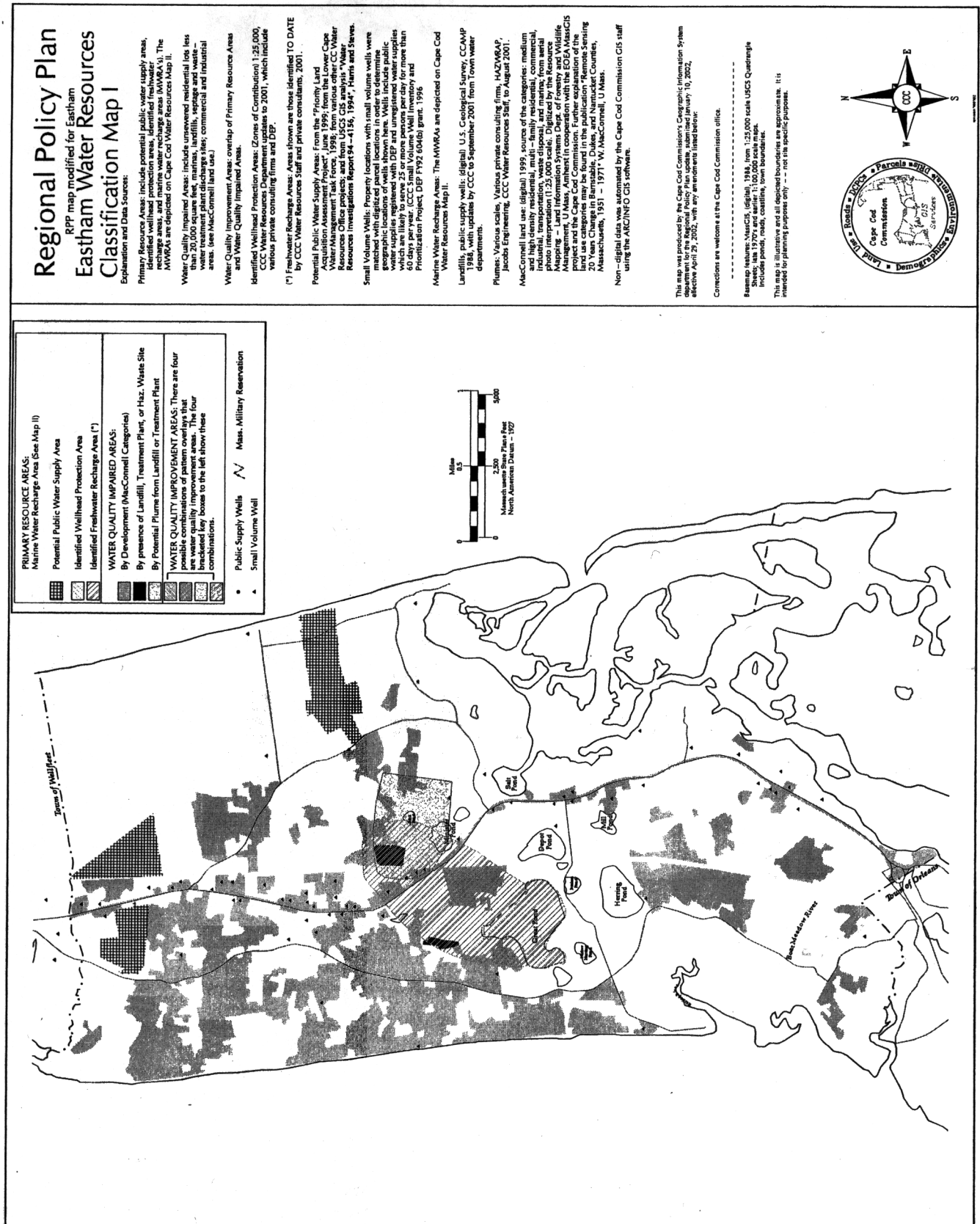
¹ Sobczak, B. and T. Cambareri. 1998. Water Resources on Outer Cape Cod. – Final report of the Lower Cape Water Management Task Force. Cape Cod Commission. Barnstable, MA.

² "Small Volume Wells" are defined and classified by the Code of Massachusetts Regulations, 310 CMR 22.00 under the Department of Environmental Protection (DEP) regulations as small community wells, nontransient/noncommunity wells, and transient noncommunity wells. These water systems are defined as "Public Water Systems" [310 CMR 22.02(8)] if the system is used for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals for at least 60 days of the year.

³ Zoto, G. A. and T. Gallagher, eds. 1988. Cape Cod Aquifer Management Project Final Report. Boston, MA.

⁴ Whitman & Howard, Inc. 1970. Report on Proposed Water System: Eastham, Massachusetts. HUD Project no. P-Mass-3423P. Boston, MA.

Map 3: Eastham Water Resources Classification



Located within the National Seashore, District H is currently relatively unthreatened by other land uses. District H also contains a large number of vernal pools that are otherwise uncommon in the Town, ecologically significant, and protected by state and federal law.

In 1997, Eastham acquired a 64-acre plot of land (known as the “Roach Property”) as open space “for general municipal purposes, to be used for whatever the town deemed most suitable”⁵ (see Map 4). A recent plan to develop this property for various public benefit applications envisions ca. one-third of it as a public water supply area, and the Lower Cape Water Management Task Force identified this property as a potential secondary water supply area. Detailed evaluation of the site’s suitability for this purpose remains to be done. However, the current USGS study of the Lower cape aquifer will provide further information about these and other potential public well sites.⁶

Potential Contamination Sources: The most common potential contamination sources for on-site domestic water supply wells in Eastham are the on-site sewage disposal systems on the same or adjacent lots. In several areas of Eastham there is a high density of disposal systems which can impact the water quality in surrounding wells. A consequence of this situation is the increase in nitrate loading which is summarized in the “Analysis” section. Concern about this trend prompted the Town to establish, in 2002, an annual nitrate screening program of all of Eastham’s wells whereby each year one-third of them are sampled. The data collected are anticipated to provide information about the evolution of contamination patterns that can guide planning and regulatory actions. Other existing and potential contamination sources include underground gasoline storage tanks located mostly along Route 6 and buried on-site domestic fuel tanks.

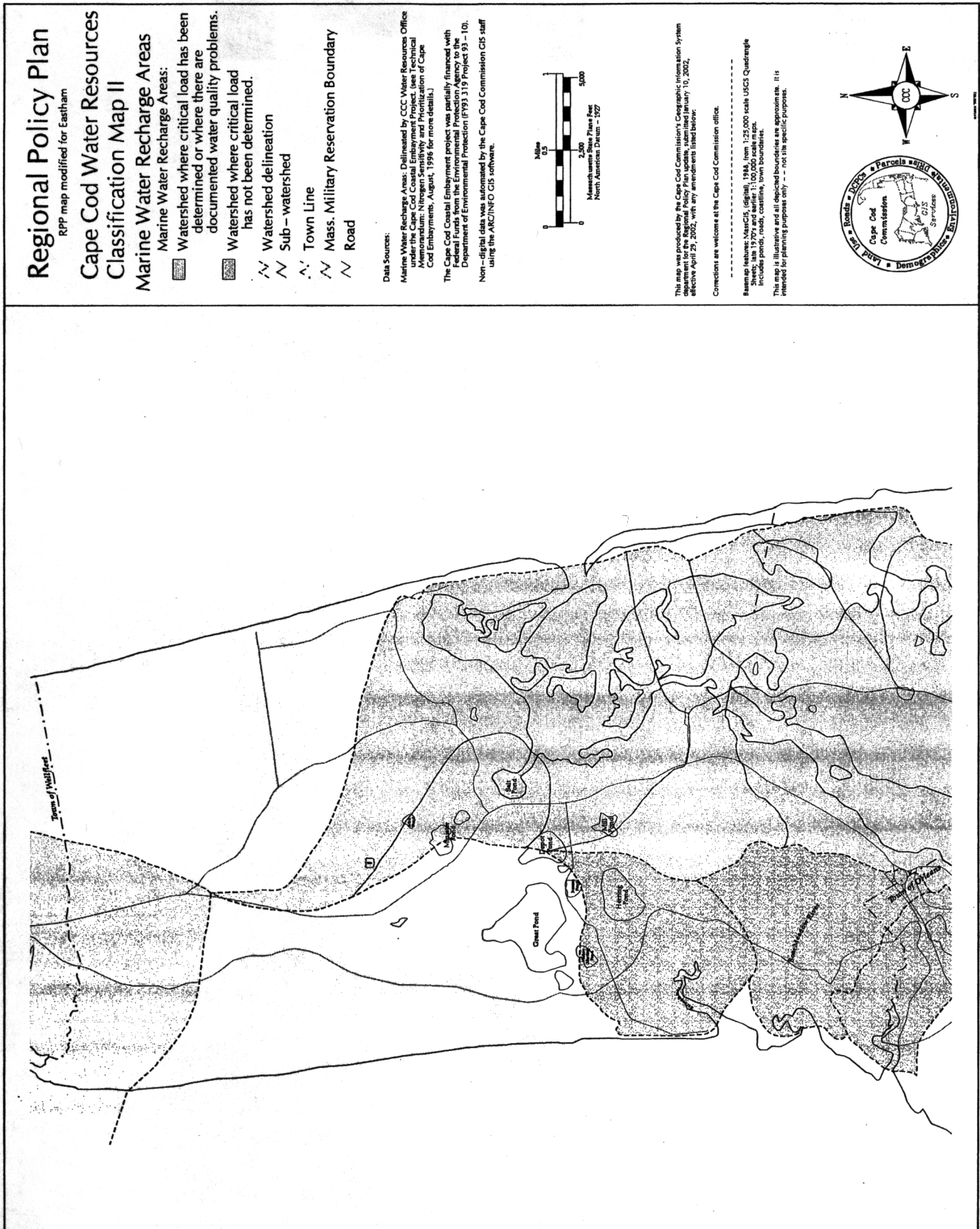
In recent years, the gasoline additive methyl tertiary-butyl ether (MTBE) has been found in Eastham’s drinking water. MTBE, a substantial component of reformulated gasoline, is used to improve the fuel’s combustion, thereby reducing air pollution. Unfortunately, MTBE’s attributes of water solubility and extremely chemical stability make it a particularly stubborn pollutant. While the compound’s deleterious health effects are suspected but not proven, its unpleasant odor at very low concentrations and appearance at levels above the federal limit of 70 parts per billion (ppb) at some locations in Eastham have caused much public concern.

At this time, three MTBE contamination sources have been identified in Eastham. Under the jurisdiction of the Massachusetts Department of Environmental Protection, effective containment and remedial actions are underway at all three sites. This experience indicates that Volatile Organic Compounds (VOCs), of which MTBE is an example, are contaminants that need to be carefully monitored once their presence has been established. VOCs have also appeared in wells at locations that make the landfill (capped during 1993 through 1997) their suspected source. In these cases, aromatic and chlorinated compounds that are known to be carcinogens have been detected, albeit below their federally mandated public drinking water standards. This situation prompted the Board of Health to institute a regulation that mandates VOC testing for all new construction and changes in the ownership of properties. From a public health perspective, it reinforces the need to monitor the quality of water on a Town-wide basis.

⁵ Horsley & Witten, Inc. 2001. Draft: Roach Property Land Use Management Plan. Sandwich, MA.

⁶ USGS. 1999. Proposal.

Map 4: Water Recharge Areas



Analysis

The Town's main concern continues to be to maintain an adequate supply of drinking water and preserve its currently good quality for the foreseeable future. Steps that will help to ensure this outcome are:

1. Enforcement by the Board of Health and other responsible Town bodies, of bylaws and regulations designed to minimize the potential for water contamination. Given the demonstrated relationship between water quality and development density, particular caution must be exercised in the evaluation of requests for variances where increased use of a property is a factor.
2. Reduction of the use of chemicals such as fertilizers and pesticides that inevitably contaminate groundwater.
3. Active encouragement of water conservation.
4. Education and the dissemination of information about water protection will sensitize the public to the importance of water quality and what can be done to preserve it.
5. Monitoring, on a systematic and regular basis, the quality of Eastham's well water. Knowledge of contaminant levels and their evolution over time can identify areas of concern and guide remedial interventions.

Additional measures can include the judicious use of alternative septic systems and special regulations for environmentally hazardous situations. At the same time, the Town will take measures to ensure that areas which can serve as potential public water sources are legally protected as such, their capacity assessed, and additional areas which could serve as public water sources are identified.

As part of the Lower Cape Water Management Task Force study, the nitrate and sodium levels were measured between 1985 and 1994 for a large number of wells (more than 6,500) in Eastham, Wellfleet and Truro. The increasing nitrate levels observed during this period gave early indications of the continuing decline in water quality. To further explore this trend and its implications, the Water Resources Advisory Board initiated an annual program of voluntary nitrate screening of Eastham's well water in 1999. The results for ca. 7% of the Town's wells in the first two years and 20% in 2001 confirmed the continuing, gradual increase in nitrate loading of the water. These data provide evidence that the distribution of nitrate levels is not uniform across the Town, and that elevated levels are clustered in North Eastham.⁷ The primary factors that sustain this trend appear to be further development, intensive use of properties in the summer, and an increasing year-round population.

With respect to commercial point sources of contamination, stringent measures to guard against leakages from gasoline storage tanks are already mandated by law and rigorously enforced.

⁷ Water Resources Advisory Board. 2001. Report on Eastham Water Screening Project 2001. Eastham, MA.

The findings of the voluntary screening program prompted the Water Resources Advisory Board to devise a comprehensive nitrate-monitoring program whereby all of Eastham's wells are tested on a three-year cycle. The implementation of this program, which is anticipated to provide early warnings of potentially serious contamination problems, is underway.

A regulation issued by the Board of Health in 2001 seeks to protect Environmentally Sensitive Areas (ESAs) (such as areas near marshlands, surface waters, tidal flats, etc.) by severely restricting the issuance of variances from septage disposal regulations in these locations. Significantly, areas where clusters of small lots (less than 20,000 square feet) exist are defined as environmentally sensitive.⁸ Another Board of Health regulation requires annual water testing for rental properties.⁹

Freshwater ponds serve as a window on our drinking water supply. At the same time, they provide opportunities for recreational activities. Careful monitoring of these resources is imperative to protect against accelerated eutrophication and disruption of the normal aquatic processes. As impacts on groundwater from the growth of the resident population increase, repercussions for ponds can be expected. This situation calls for vigilance and increased attention to the mitigation of non-point contribution from the groundwater to Eastham's freshwater ponds. Periodic monitoring for nutrients, elimination of the use of phosphate cleaning products, and upgrading of sewage disposal systems within 300 feet of ponds should be considered. For more information about Eastham's freshwater wetlands, see the Wetlands, Wildlife, and Habitat chapter of this plan.

Protection of coastal embayments is a key environmental issue in Eastham. Embayments are where shellfish live and much of the finfish population in the surrounding ocean originates. Each septic system located on the Lens adds contaminants to the groundwater, which is then discharged into the embayments to the detriment of aquatic life. Non-point source contaminants from septic systems can include metals from plumbing, phosphate from detergents, and nitrogen from toilet wastes. Among these contaminants, nitrogen is of primary concern for coastal waters as it is the nutrient that tends to limit coastal productivity. Too much nitrogen leads to ecosystem-wide changes as the underlying plant communities are altered. Coastal ecosystems around Cape Cod are particularly sensitive to excessive nitrogen where it has been implicated in the decline of shellfish and finfish productivity, the loss of eelgrass beds, and increased algal growth.

To ensure that coastal water quality is protected from excessive nutrients, adequate documentation of the sensitivity of individual embayments to non-point source pollution must be developed, and a management plan must be established and implemented to counteract deleterious effects. Once the critical nitrogen-loading rate has been determined, appropriate non-point source remediation strategies should be developed. The Towns of Orleans and Eastham together with the National Seashore are cooperatively studying wastewater management and nutrient loading of the Town Cove/Nauset Marsh/Salt Pond ecosystem; these studies might result

⁸ Eastham Board of Health Regulation. 2001. Section F(1) and F(2): Environmentally Sensitive Area.

⁹ Eastham Board of Health Regulation. 1988. Section 4A: Rental of Premises to be used for Human Habitation.

in recommendations for increased protections of this precious area.¹⁰ For more information about the coastal resources of Eastham, please see the Coastal Resources chapter of this plan.

Nearly as important to the health of Eastham residents and visitors as the various studies advocated in this chapter are monitoring actions that should be taken by individual homeowners throughout the town. The Massachusetts Water Supply Policy Statement (1987) declares, “The primary responsibility for adequacy and safety of private water supplies remains with the users and local officials.” Regular basic chemical profiling of wells in Eastham is not mandatory at this time, and might never need to be. However, basic chemical profiling on an annual basis at a minimum should be considered a priority by every homeowner within Eastham. Basic chemical profile testing provides information about a range of contaminants (including nitrates), and is available through the Barnstable County Department of Health and the Environment using collection bottles obtained for a fee through the Eastham Health Department.

Implementation

Recommended Town Actions

- A. Develop water-conservation plans that encourage the installation and use of water-saving devices.
- B. Identify locations of private wells and septic systems, especially in densely developed areas, and undertake assessments to evaluate the need for sewers and/or public water.
- C. Work with the Commission to identify Impaired Areas and Water Quality Improvement Areas to prioritize wastewater treatment upgrades, including identification of appropriate parcels for aggregate treatment and/or discharge facilities for community wastewater treatment.
- D. Work with the Commission and others to identify wastewater infrastructure and legal and institutional needs to address the establishment of wastewater management districts.
- E. Establish or modify local water supply protection bylaws to prohibit hazardous land uses in Wellhead Protection Areas, limiting nitrogen loading to protect ground- and surface water quality, and protect and acquire future water supply areas.
- F. Develop storm water design standards that encourage better treatment within Wellhead Protection Areas.
- G. Encourage and fund water quality monitoring programs especially programs with citizens serving as water quality monitors.

¹⁰ Howes, B.L. 2001. Quantitative Assessment of the Embayments within the Town of Orleans to Support Management and Restoration: Nutrient Loading and Environment Health.

- H. Establish bonus provisions to allow increased development density through their local bylaws/ordinances for development that provides a public benefit such as affordable housing substantially above the required 10% level, or treatment of amounts of sewage from existing non-sewered development.

The Water Resources Advisory Board's recommendations strive to ensure a sustainable supply of drinking water from the present system of individual wells and to preserve the integrity of Eastham's fresh and marine surface waters. They are formulated to conform to guidelines specified in the Regional Policy Plan for Barnstable County. The key elements of these recommendations follow. Elaboration of these recommendations and specific information about responsible agents, priorities and support are given in the Water Resources timetable in the Implementation section.

- Develop short-term and long-term management plans to maintain an adequate supply of potable water.

The components of these plans should include an ongoing water quality monitoring program, hydrogeological studies of sensitive areas such as the Route 6 corridor and specific contaminant release sites, and the specification of suitable remediation measures. The appropriate application of such measures is necessary to enable the Town to maintain the current mode of dispersed supply wells.

- Develop recommendations and support actions which will preserve future options for quality groundwater supply sources.

The identification and protection of potential sites for public water supplies should be continued, and studies such as the one by the USGS that is currently in progress should be supported.

- Assess the need for the designation of additional environmentally sensitive areas where special protective measures for water would be appropriate.

The results of the planned comprehensive water quality monitoring program and other water resources studies would help reveal the need for such areas and actions.

- Develop long-range wastewater management plan.

Increased nitrate loading of the groundwater that has been noted in recent years emphasizes the need to plan appropriate improvements in wastewater treatment.

- Promote and facilitate the use of alternative treatment technology where current systems fail to protect water quality. Support and ensure diligent monitoring and maintenance of alternative septic treatment systems.

Alternative septic treatment systems produce significantly cleaner effluent than Title V and other conventional systems. At the same time, alternative systems require frequent inspection and maintenance to ensure their proper functioning.

- Continue the formulation of bylaws and regulations that will protect water resources.

The recent appearance of contaminants such as MTBE, additional VOC's, and other pollutants in Eastham wells calls for appropriate regulatory actions.

- Expand and improve public education and the dissemination of information about water contamination issues and actively promote water conservation.

Burgeoning interest in water issues highlights the need for providing meaningful information to residents.

- Improve communication and coordination of water resources information: among various Town boards/committees concerned with water resources, and among Eastham, Orleans, Wellfleet, and the National Seashore.

This is a primary role of the Water Resources Advisory Board. While the WRAB is not a regulatory authority and does not normally review site proposals, it should ensure that all agencies which directly affect Eastham water through the course of their normal affairs have the proper information and tools necessary to carry out their missions and protect water resources.

- Develop and implement measures to protect freshwater ponds, wetlands and coastal embayments against the harmful effects of contamination from various sources and recreational uses.

These measures should include protection of tidal flushing which serves to reduce damage-causing alien vegetation.

- Enforce the present 5ppm nitrate-nitrogen loading standard.
- Limit the introduction of chemicals such as road salt, fertilizers and pesticides into the groundwater.

Educational efforts and, if these fail, restrictive regulations should be explored.

See "Water Resources" and "Land Use/Growth Management" in Implementation section.

NATURAL RESOURCES - COASTAL RESOURCES

Town of Eastham Goals and Performance Standards

The Cape Cod Commission through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for Coastal Resources. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan.

- 2.2.1 Goal:** To protect public and traditional maritime interests in the coast and rights for fishing, fowling, and navigation, to preserve and manage coastal areas so as to safeguard and perpetuate their biological, economic, historic, maritime, and aesthetic values, and to preserve, enhance, and where appropriate, expand public access to the shoreline.

Minimum Performance Standards

- 2.2.1.1 Development and redevelopment along the coastline shall not interfere with existing public access and traditional public rights of way to and environmentally appropriate use of the shoreline.
- 2.2.1.2 Public access shall be provided at all publicly funded beach-nourishment sites where such access will not impair natural resources.

Other Development Review Policies

- 2.2.1.3 Marine infrastructure that supports fisheries or marine transportation should be preserved and protected from conversion to private or recreational uses.
- 2.2.1.4 Development and redevelopment should reflect the traditional maritime character and/or architecture typical of the area and should be designed to maintain and enhance views of the shoreline from public ways, waterways, access points, and existing development.
- 2.2.1.5 The construction of walkways, where environmentally acceptable, should be encouraged to enhance shoreline access for the public, including people with disabilities. Such activities should not degrade undisturbed resources or contribute to adverse impacts to habitat, aesthetics, or storm damage prevention.
- 2.2.1.6 If an existing water-dependent facility is within 250 feet of the mean high water line or shoreward of the first public way, whichever is less, such use should not be changed to a non-water-dependent facility unless an overriding public benefit is provided to accommodate for the loss of the water-dependent use.
- 2.2.1.7 Development or redevelopment of water-dependent facilities should provide coastal access benefits to the general public. Such access should minimize interference with the water-dependent use.

2.2.1.8 Coastal engineering structures should be designed so as to allow the public to pass along the shore (either above or below the structure) in the exercise of its public trust rights to fishing, fowling, and navigation.

2.2.2 Goal: To limit development in areas subject to coastal storm flow, particularly high-hazard areas, in order to minimize human casualties and property or environmental damage resulting from storms, flooding, erosion, and relative sea-level rise.

Minimum Performance Standards

2.2.2.1 Except as specified in Minimum Performance Standard 2.2.2.5, no development or redevelopment shall be permitted within FEMA flood V-zones. Existing structures may be reconstructed or renovated provided there is no increase in floor area or intensity of use. As an exception, where there is no feasible alternative, water-dependent structures and uses and maintenance of marine infrastructure may be permitted subject to the approval of all permitting authorities.

2.2.2.2 In order to accommodate possible relative sea-level rise and possible increased storm intensity, ensure human health and safety, and protect the integrity of coastal landforms and natural resources, all new buildings, including replacements, or substantial improvements to existing structures within FEMA A-zones shall be designed to accommodate the documented relative sea-level rise rate in Massachusetts of at least one foot per 100 years, except as provided in Minimum Performance Standard 2.2.2.13, and in V-zones shall be designed to accommodate a relative sea-level rise rate of two feet per 100 years.

2.2.2.3 Except as specified in Minimum Performance Standard 2.2.2.5, no new development or redevelopment shall be permitted on barrier beaches or coastal dunes as defined by the Wetlands Protection Act and associated regulations and policies. Existing structures may be reconstructed or renovated, provided there is no increase in floor area, footprint, or intensity of use, or conversion from seasonal to year-round use.

A. If the reconstruction/renovation is greater than 50% of the replacement value of a structure and is located within a V-zone, the lowest horizontal structural member shall be elevated at least two feet above the 100-year flood elevation. If the structure is located in the A-zone, the lowest floor shall be elevated at least one foot above the 100-year flood elevation, except as provided in Minimum Performance Standard 2.2.2.13. On a barrier beach or coastal dune and in either the V- or A-zone, the structure shall be on open pilings to allow for storm flowage and beach and dune migration.

B. If the structure is on a barrier beach or dune and is outside the 100-year coastal floodplain and is proposed to be reconstructed/renovated greater than 50% of its replacement value before reconstruction and renovation, it shall be elevated at least two feet above grade on open pilings to allow dune migration.

C. Water-dependent public recreational facilities and marine infrastructure in these locations may be developed or renovated in accordance with Minimum Performance Standard 2.2.2.2 provided that it can be demonstrated that the proposed development will not compromise the integrity of coastal resources or contribute to the cumulative loss of public access to the coast or fish or shellfish habitat and preserves the aesthetic quality of the area in accordance with Minimum Performance Standard 2.2.1.3.

- 2.2.2.4 No new non-water-dependent development shall be permitted within 100 feet of the top of a coastal bank, dune crest, or beach. Redevelopment shall be designed to have no adverse effect on the height, stability, or the use of the bank or dune as a natural sediment source. In areas where banks or dunes are eroding, the setback for all new buildings and septic systems to the top of the coastal bank or dune crest shall be at least 30 times the average annual erosion rate of the bank or dune or 100 feet, whichever is greater. The annual rate of erosion shall be determined by averaging the erosion over the previous 30-year period at a minimum. In instances where shoreline erosion rates are indicative of bank/dune erosion rates, MCZM shoreline change maps may be used in determining the setback.
- 2.2.2.5 Where fire, storm, or similar disaster has caused damage to or loss of buildings in FEMA A- and V-zones, on barrier beaches, coastal banks, or coastal dunes of greater than 50% of their replacement value, all reconstruction shall be in compliance with current applicable regulations and shall be designed in accordance with Minimum Performance Standards 2.1.1.4, 2.2.2.2, 2.2.2.4, 2.2.3.1, and 2.2.3.2. Any reconstruction shall not enlarge or expand the use of an existing structure.
- 2.2.2.6 Except as provided in Minimum Performance Standard 2.2.2.13, no new public infrastructure or expansion of existing infrastructure shall be made in flood hazard zones (FEMA A- and V-zones) unless it is shown that there is an overriding public benefit provided, and provided that such infrastructure will not promote new growth and development in flood hazard areas.
- 2.2.2.7 Where land subject to coastal storm flow serves to control floods and prevent 1 storm damage, no activity shall increase the existing site elevations or the velocity of flood waters or increase flows due to a change in drainage or flowage characteristics on the subject site, adjacent properties, or any public or private way.
- 2.2.2.8 New development and redevelopment shall not impede the landward migration of resource areas within the 100-year floodplain, except for maintenance of existing public infrastructure. Relative sea-level rise and the landward migration of coastal resources in response to relative sea-level rise shall be incorporated into the design, construction, and location of structures and other activities proposed.
- 2.2.2.9 New structures, additions to existing structures, solid foundations, new or proposed expansions of roads, driveways, or parking lots, or impermeable paving of existing ways, new or proposed expansions of coastal engineering structures, and new septic systems shall be prohibited within the V-zone of a beach, dune, barrier beach, or coastal

bank. Redevelopment of marine infrastructure shall include a monitoring and renourishment plan to replicate the form and function of pre-existing features to the greatest extent practicable.

- 2.2.2.10 Notwithstanding Minimum Performance Standards 2.2.2.6, 2.2.2.7, 2.2.2.8, 2.2.2.9, and 2.2.3.13, the following activities may be permitted provided the applicant demonstrates that best available measures are utilized to minimize adverse impacts on all critical characteristics of land subject to coastal storm flowage, and provided that all other performance standards for underlying resource areas are met: beach, dune, and bank nourishment and non-structural restoration projects, including temporary fencing and other devices composed of natural and biodegradable material to facilitate dune development and plantings compatible with natural vegetative cover; appropriately designed pedestrian walkways and elevated decks with appropriate orientation, height, and spacing between planks to allow sufficient sunlight penetration; maintenance and use of public boat launching facilities; maintenance required to preserve the aesthetics or structural integrity of marine infrastructure; projects that will restore, rehabilitate, or create salt marsh or freshwater wetlands; projects that are approved in writing or conducted by the Division of Marine Fisheries and that are specifically intended to increase the productivity of land containing shellfish, including appropriately sited and managed shellfish aquaculture projects, or to maintain or enhance marine fisheries, and projects that are approved in writing or conducted by the Division of Fisheries and Wildlife that are specifically intended to enhance or increase wildlife habitat.
- 2.2.2.11 Monitoring and maintenance plans shall be required of all projects proposing to place dredged material on public or private beaches for renourishment of eroding features. Vegetative stabilization shall be designed and maintained to ensure the longevity of the renourishment project, and shall be implemented as a component of the maintenance plan. The density of stabilizing vegetation may be reduced to preserve characteristics of nest sites and actual habitat of threatened and endangered species such as shorebirds and the diamondback terrapin.
- 2.2.2.12 Wherever feasible, dredged material shall be used for nourishment on public beaches subject to erosion. Such material shall be clean and compatible with existing strata. Where no feasible public site exists, dredge material may be used to enhance storm damage prevention for multiple private properties, provided that public access is afforded in accordance with Minimum Performance Standard 2.2.1.2.
- 2.2.2.13 In order to allow alternative means of reducing flood hazard risks in areas where there are serious concerns about protecting the character of historic villages, the following shall apply in Village Growth/Activity Centers or Growth Incentive Zones located in FEMA A-zones for which a Flood Hazard Mitigation Plan has been prepared and adopted by the town and has been found by the Cape Cod Commission to be consistent with state coastal policies and regulations. Notwithstanding Minimum Performance Standards 2.1.2.5, 2.2.2.2, 2.2.2.3 A, and 2.2.2.6, the following standards shall apply to such Village Growth/Activity Centers or Growth Incentive Zones located within FEMA A-zones:

A. Development and redevelopment shall be subject to the requirements of the adopted flood Hazard Mitigation Plan and any related policies and regulations.

B. Public infrastructure and private sewage treatment facilities (PSTFs) may be constructed in FEMA A-zones (but not within a V- or an AO- zone) provided that these facilities are consistent with the Flood Hazard Mitigation Plan and the certified Local Comprehensive Plan; further provided that the infrastructure is itself flood-resistant; and provided that such infrastructure will not promote new growth and development outside such Growth/Activity Center or Growth Incentive Zone.

C. All new buildings or substantial improvements to existing structures in the FEMA A-zone shall comply with FEMA and State Building Code regulations for elevation and flood-proofing.

Other Development Review Policies

2.2.2.14 Vehicle, boat, and pedestrian traffic in critical wildlife and plant habitat areas as identified in Minimum Performance Standard 2.4.1.4 such as wetlands, dunes, shallow estuarine areas, and shorebird-breeding habitat and other sensitive resource areas should be minimized.

2.2.3 Goal: To maintain and improve coastal water quality to allow shellfishing and/or swimming in all coastal waters as appropriate, and to protect coastal ecosystems that support protected species and shellfish and finfish habitat.

Minimum Performance Standards

2.2.3.1 New mounded septic systems shall be prohibited within FEMA V-zones except to upgrade existing failed systems where such systems pose a demonstrated threat to public health, water quality, or natural resources. Structural components of failed systems shall be removed from V-zones, unless such removal would cause irreversible adverse impacts to protected resources.

2.2.3.2 No new direct, untreated stormwater discharges shall be permitted into any coastal waters or wetlands, including discharges above or below the mean high water level. Existing stormwater discharges shall be corrected through treatment and redirection in accordance with applicable Minimum Performance Standards under Goal 2.1.3.

2.2.3.3 The design and construction of stormwater management systems proposed in V-zones shall incorporate the historic rate of relative sea-level rise in Massachusetts of two feet per 100 years to the maximum extent practicable. For systems proposed in A-zones, the historic rate of relative sea-level rise in Massachusetts of one foot per 100 years shall be incorporated into National Pollution Discharge Elimination System (NPDES) Phase II Plans (where required) and individual project design and construction.

- 2.2.3.4 In order to avoid additive losses of shellfish habitat and minimize cumulative impacts to wetlands and public access, construction of community docks and piers, rather than separate structures serving individual lots, shall be required. In significant shellfish habitat areas, as identified and documented by the Division of Marine Fisheries and/or local shellfish officials, the construction or expansion of docks and piers shall not be permitted. Previously licensed private docks and piers more than 50% damaged or destroyed by storms may be replaced in accordance with federal, state and local regulations, except in areas identified and documented as significant shellfish habitat.
- 2.2.3.5 New marinas of 10 or more slips, moorings, or active landward storage berths, and expansions of existing marinas by 10 or more slips, moorings, or berths shall provide or contribute to the provision of adequate boat sewage pump-out facilities in each harbor and shall provide restrooms for their patrons. Such marinas shall also provide or contribute to provision of adequate collection facilities for solid waste and waste oil for their patrons.
- 2.2.3.6 Improvement dredging shall be prohibited except for when new dredging is necessary to accomplish substantial public benefit and no feasible alternative exists. Public Benefits may include enhancement of fish or shellfish habitat, improvements to the flushing capacity of nitrogen sensitive embayments.
- 2.2.3.7 Development shall have no significant direct or indirect adverse effects to eelgrass beds, unless there is no feasible alternative location or design for the project and the project is necessary to accomplish a public benefit.
- 2.2.3.8 Development and redevelopment shall be designed and constructed to minimize direct and secondary impacts to fish, shellfish, and crustaceans.
- 2.2.3.9 All projects proposed as maintenance dredging shall provide prior permitting authorities, permit numbers, dates of issuance and re-issuance, and documentation that clearly demonstrates the width, depth, and length of the previously permitted project.
- 2.2.3.10 Coastal aquaculture facilities shall be designed to have no significant adverse impacts to water quality or to the chemical composition and habitat value of marine sediment. New permanent or permanently anchored artificial structures designed to retain or support the propagation of fish or shellfish, other than marine infrastructure and other development permitted herein, shall not be permitted in the sub-tidal marine environment. Temporary structures permitted in writing by the Division of Marine Fisheries and specifically intended to increase the productivity of land containing shellfish or enhancing marine fisheries may be allowed, provided that there is no impact to public trust rights.
- 2.2.3.10 Undisturbed buffer areas of at least 100 feet in width surrounding coastal wetlands and/or landward of the mean high water mark of coastal water bodies shall be protected in accordance with Minimum Performance Standard 2.3.1.2.

Other Development Review Policies

- 2.2.3.11 Where appropriate, waterfront fueling facilities should be upgraded to ensure that best management practices are used to avoid adverse impacts to water quality.
- 2.2.3.12 Development and redevelopment in the marine environment should be designed to minimize subsurface noise impacts to fish and to protected species habitat.
- 2.2.3.13 Encourage the continuation of small scale aquaculture licenses, as well as the use of native species and good monitoring programs done cooperatively with the National Seashore to prevent negative water quality and ecological impacts from aquaculture activities.
- 2.2.3.14 Protect and enhance the quality and quantity of shellfish resources through habitat restoration and aquacultural techniques including the Eastham Aquaculture Technology Training Center at Hemenway Landing.

Additional Town Goals

Overall, the Town must consider the protection of its coastal resources as vital to the well being of the community. The health and well being of these resources has deteriorated in general due to miscellaneous individual actions, but the net result has been degradation. Status quo is not acceptable in terms of the environmental consequences and efforts should be maintained to improve the quality of these areas. Additional goals of the Town of Eastham with regard to coastal resources include the following:

- *Protect natural habitats in the coastal region from destruction by coastal-engineered structures.*
- *Preserve traditional rights of access to shoreline areas by the public.*
- *Manage the marine habitat of the salt marshes to prevent destruction of shellfish and finfish resources by strictly limiting the construction and utilization of new private docks and piers.*
- *Plan and implement programs to maintain waterways access for the public, e.g., boat launching areas.*
- *Protect and improve water quality in shellfish growing areas through better stormwater management and addressing other human utilization of the near shore area.*
- *Maintain and improve public beaches for the use of bathers.*

Existing Conditions

The coastal resources of Eastham are divided between Cape Cod Bay (the West Shore) and the Atlantic Ocean including Nauset Marsh and Town Cove. The Bay shoreline extends approximately 5.5 miles and is a mixture of coastal bank deposited by glacial activity, barrier beaches which form and protect extensive salt marsh systems, and coastal dunes. The Town

owns and maintains seven (7) public beach areas along this shoreline with a total parking lot capacity of some five-hundred (500) vehicles.

Table 7: Eastham Beach Parking

Beach	Parking
South Sunken Meadow	26
Cooks Brook	85
Campground	119
Thumpertown	18
Cole Road	12
First Encounter	199
Boat Meadow	10

The parking areas serve an area which totals approximately 1,500 linear feet of beach front (0.3 miles). No lifeguards are provided at these beaches due to the nature of the tidal action. Average depth of water is eight feet along the beaches at high tide, and at low water sandbars extend up to one mile offshore. Numerous private access points to the shore also exist, which are maintained by local associations of homeowners.

Two barrier beaches, located at Sunken Meadow and First Encounter beaches, have been created by sand transported by tidal action and the wind. Landward of these barrier systems are extensive salt marsh systems, which have tidal creeks. Other salt marsh systems include Boat Meadow and Rock Harbor. All of these systems have been designated as Areas of Critical Environmental Concern (ACEC). In total, they contain approximately 400 acres.

Rock Harbor is located at the southern extremity of the Town and is jointly used with the town of Orleans as a (tidal) port for recreational and commercial fishing vessels. Eastham maintains some 45 slips for dockage of boats and the Public Access Board of the Commonwealth maintains a parking area with boat launching ramp. Periodic dredging of this harbor continues on an erratic schedule. The most recent activity was completed in 1992, with the dredge spoil being deposited in several nearby shoreline locations. Future dredging will most likely require the transport of this material off site.

Billingsgate Island, scarcely visible except at low tide, is presently a mere fraction of its former self. Once an upland area which supported a community of residents, tidal action has reduced the volume of land to a shoal area. This foreshadowing of the future of the rest of the Cape forced the removal of the dwellings and people some time ago, but the resource as a productive shellfishing ground still exists. The corporate boundary of the Town extends three miles further into Cape Cod Bay and within that area lie productive grounds for the harvest of quahogs, sea clams, and bay scallops. Recreational fishing for both finfish and shellfish is common along the entire shoreline.

On the opposite side of the Town, Eastham's Back shore faces the Atlantic Ocean, which consists for the most part of high bluffs of glacial till exposed to coastal processes. Much of this sand has been transported southerly to form the Nauset Spit, a barrier beach which created and protects the Nauset Marsh system and adjacent Town Cove. The salt marsh system covers approximately 800 acres and is an extremely productive nursery area for both fin and shellfish species. Shellfishing is an ongoing activity in the marsh with both recreational and commercial activity being sustained and encouraged. The Town has developed numerous programs to supplement the natural production of shellfish species including relays, aquaculture methods to raise seed for the "wild" fishery, predator control programs and water quality monitoring.

The location of the Nauset Marsh system within the Cape Cod National Seashore boundary and its associated Seashore Zoning District F regulations establishes a level of environmental protection specifications for privately owned (fee simple) properties. These zoning specifications limit uses, expansions, alterations, repairs and disturbance of land associated with residential dwellings within the boundary. For dwellings owned by the Cape Cod National Seashore through condemnation, removal and restoration to original conditions will be completed as funding permits. Over time this will reduce the number of structures in drainage basin contributing to the Nauset Marsh system and the footprint of area devoted to residential use. Currently, the Cape Cod National Seashore and the Town are cooperating on a project adjacent to Salt Pond Bay to remove a house and restore the surrounding area back to its natural state. Both the Town and the Cape Cod National Seashore are stakeholders in protecting the health of the Nauset Marsh system.

Private shellfish aquaculture sites continue to operate in various areas of the marsh and cove as they have historically done. The Town is currently addressing the recent interest in aquaculture by developing and permitting larger scale "Aquaculture Development Areas". These large sites which abut Town property in Cape Cod Bay are leased to individuals. By streamlining the permitting process and providing areas not subject to upland property owners' objections, aquaculture activities will be encouraged. The EATTC provides training for potential aquaculturists as well as interested citizens and provides seed shellfish for the recreational and commercial wild fishery.

The corporate boundary of the Town divides the Town Cove from sections of Nauset Marsh. Historically, residents of each town have "enjoyed the rights to the shellfishery" as if they were residents of the other Town since the political separation of Orleans from Eastham in 1800's. Since division of resources based on political rather than biological or other scientific strategies does not make sense, the two towns have cooperated closely on all aspects of management of the water bodies in question.

The majority of Eastham's shoreline along the back shore remains undeveloped beyond the establishment of the Cape Cod National Seashore. Two beaches are maintained on the Ocean at Nauset Light and Coast Guard sites. Both facilities are operated by the Seashore and include restroom facilities as well as lifeguards. Three Town landings are maintained along the marsh and Cove, which serve as boat launching areas. Swimming is limited at these sites.

Analysis

The overwhelming majority of the shoreline in Eastham along Cape Cod Bay is eroding at various rates ranging from more than two feet per year to less than one-half foot per year. The response by property owners has been to construct structures to prevent the loss of their property with the resulting loss of active beach, "end effects" which encourage neighbors to imitate the activity, and finally a loss of sand to adequately nourish the barrier beach systems at the extremities of the town. Efforts have been made to encourage "soft" solutions to the erosion process, but much damage has been completed.

Nourishment of Town owned beach areas are a significant problem and increasing in scope. New or repaired coastal engineer structures are permitted with the stipulation that artificial nourishment shall be conducted annually by the property owner in an amount equal to what would have eroded at the site had there not been a coastal engineered structure. As the densely developed areas along the shore are converted to year-round use, or expanded to include more housing on tiny foundations, septic issues and the subsequent low level impact of foot traffic and other incidental pressure increases. Access to and use of the beachfront property is an issue of increasing concern as certain property owners is attempting to exercise their property rights to mean low water (a considerable distance) and prevent such activities as bathing, boat moorings and shellfishing in front of their property. While not excessive at the present time, these owners represent a trend, which is increasing at a regular rate.

Dredging of Rock Harbor should be conducted on a five-year basis to ensure the least amount of disruption of navigation and safety. Previous projects have been completed only when the harbor proper was not navigable at low tide, which presents a fire hazard. The dichotomy of excess sand in Rock Harbor, which needs to be removed, and the lack of beach material along the eroding shore of the Bay suggests an integrated solution. A process should be implemented whereby the amount of material needed to stabilize eroding beaches, the amount of material estimated to be available in Rock Harbor, the timing of the transfer and the cost of the project are evaluated and balanced.

Similar projects have been executed on Cape beaches with the understanding that the process is a dynamic one. The benefits of the attractive beach area are to be enjoyed by property owners as well as visitors and all who are part of the visitor economy.

There appears to be a limitless demand for services at Rock Harbor despite the fact that it is subject to tidal action. The limited number of slips cannot meet the need, but the expansion of dock facilities must be weighed together with loss of marsh and increased traffic along access roads. Town should initiate a harbor planning study, targeting Rock Harbor, to develop a framework and guidelines for use and dredging activities. Study results could serve as the baseline for developing a town-wide harbor management plan in accordance with state guidelines.

Docks and piers constructed along the shore of Town Cove presents an ongoing concern with regard to the access along the shoreline as well as effects on shellfish habitat. Issues such as

increased turbidity, loss of areas, and conflict of use are concentrated along this section of Eastham's shoreline.

All of the salt marsh systems along the west shore are currently closed to shellfishing activity due to an administrative closure order issued by the Environmental Protection Agency (EPA). Sanitary surveys of these areas have not been completed at the present time, but high coliform bacteria counts in samples suggests that these areas would not meet water quality standards. In Nauset Marsh and Town Cove, several areas are subject to "seasonal closure" or "rainfall closure" due to road runoff, which is channeled directly in shellfish growing areas. These areas are in critical need of attention.

Recent changes to the inlet of the Nauset Marsh system have demonstrated that development in some areas identified as High Hazard by the FEMA maps has been underestimated. With two inlets established for the present time, more tide waters are able to enter the system, but not necessarily exit on the low tide; thus with a series of easterly gales which drove tide waters into the marsh numerous instances of flooding have occurred. In fact the 100-year flood elevation has been achieved several times in a few years. The FEMA maps need to be reviewed in light of different barrier beach configurations. At a minimum, development in boundary areas or within hazard areas should be scrutinized.

Implementation

Recommended Town Actions

- A. Designate a "working waterfront" overlay zone in the area of Collins Landing in Town Cove to ensure the preservation and expansion of traditional maritime uses. Within this zone a boatyard preservation program should be implemented. All new buildings or accessory uses constructed within this zone should directly benefit maritime related uses.
- B. Confirm designated traditional rights-of-way to the shore through appropriate legal means. Efforts should continue to educate the public about shoreline issues and to attempt to resolve disputes between owners and users.
- C. Restrict development or increase in use in environmentally sensitive nearshore areas and limit septic impact of development.
- D. Initiate a harbor planning study, targeting Rock Harbor, to develop a framework and guidelines for use and dredging activities. Study results could serve as the baseline for developing a town-wide harbor management plan in accordance with state guidelines to implement watershed zoning to protect coastal resources and prevent use conflicts on the water.
- E. Review its areas designated as Federal no discharge zones for boats to be certain they meet current Federal and State guidelines.

- F. Continue to cooperate with the regional efforts to provide disposal options for marine head waste.
- G. Monitor by-laws and regulations established to reduce the potential impacts to health and safety and the economy resulting from coastal storms in order to ensure necessary stringency.
- H. Update its list of projects that provide or enhance coastal access and use of their shoreline. To be used in conditioning local Chapter 91, Massachusetts General Law licenses.
- I. Encourage "soft" solutions (snow fencing, beach grass planting) to coastal erosion instead of engineered structures.
- J. Develop a comprehensive plan to require annual beach nourishment/replenishment as a condition for permission to install, maintain or rebuild a revetment.
- K. Secure easements for public ownership of tidal flats between mean high and mean low water.
- L. Maintain a regular dredging schedule for Rock Harbor.
- M. Explore the feasibility of using Rock Harbor dredged materials for beach nourishment projects.
- N. Continue to upgrade and expand beach services, including clean, adequate handicapped-accessible toilet facilities at each beach; benches, picnic tables and trash receptacles, bicycle parking, additional planting and fencing to delineate sensitive dune areas; uniform and user friendly signage; and should investigate additional sources of funding to provide additional personnel at parking lots.
- O. Implement a continuing environmental education program.
- P. The volunteer corps of year-round and seasonal residents should be continued to help with beach maintenance, possibly on an "adopt a beach" program.
- Q. Continue and expand the shellfish propagation and predator control efforts for both recreational and commercial uses.
- R. Pursue the establishment of community rather than individual private docks in the area of Town Cove.
- S. Identify and cleanup the existing point source discharges of storm water from roadways such as Route 6.
- T. Target the salt marsh areas along Cape Cod Bay which are subject to administrative closure for sanitary survey and restoration/remediation programs.

See "Coastal Resources" in Implementation section.

NATURAL RESOURCES - WETLANDS

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for Wetlands. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan.

- 2.3.1 Goal:** To preserve and restore the quality and quantity of inland and coastal wetlands on Cape Cod.

Minimum Performance Standards

- 2.3.1.1 Wetland alteration shall not be permitted except as provided herein and in Minimum Performance Standard 2.3.3. As an exception, where there is no feasible alternative, water-dependent projects involving wetland alteration with appropriate mitigation may be permitted subject to the approval of all permitting authorities. Such permission may be granted subject to a finding that there is no feasible alternative location for the project and that any necessary alteration is the minimum necessary to accomplish the goals of the project. Appropriate mitigation shall not include wetland creation or replication.
- 2.3.1.2 Vegetated, undisturbed buffer areas of at least 100 feet in width shall be maintained and/or provided from the edge of coastal and inland wetlands including isolated wetlands, to protect their natural functions. This policy shall not be construed to preclude pedestrian access paths, vista pruning, or construction and maintenance of water-dependent structures within the buffer area, any of which may be permitted at the discretion of permitting authorities where there is no feasible alternative to their location. The Eastham local Conservation Commission may require a larger buffer area where necessary to protect sensitive areas or where site conditions such as slopes or soils suggest that a larger buffer area is necessary to prevent any adverse impact to wetlands and associated wildlife habitat. Where a buffer area is already altered such that the required buffer cannot be provided without removal of structures and/or pavement, this requirement may be modified by the permitting authority, provided it makes the following findings: (1) that the proposed alteration will not increase adverse impacts on that specific portion of the buffer area or associated wetland, and (2) that there is no technically demonstrated feasible construction alternative.
- 2.3.1.3 Disturbance of wetlands and buffer areas for operation and maintenance of underground and overhead utility lines (electrical, communication, sewer, water, and gas lines) may occur. Installation of new utility lines through these areas may occur where the permitting authority finds that the proposed route is the best environmental alternative for locating such facilities. In all instances, disturbance of wetland and buffer areas shall be minimized and surface vegetation, topography, and water flow shall be restored substantially to the original condition.

- 2.3.1.4 Stormwater management plans for new development shall preclude direct discharge of untreated stormwater into natural wetlands and water bodies. New stormwater discharges shall be located a minimum of 100 feet from wetlands and water bodies.

Other Development Review Policies

- 2.3.1.5 Measures to restore altered or degraded inland and coastal wetlands, including nonstructural bank stabilization, revegetation, and restoration of tidal flushing should be encouraged; however, such areas should not be used as mitigation for wetland alteration projects (mitigation banking).
- 2.3.1.6 Construction of artificial wetlands for stormwater and wastewater management may be permitted in appropriate areas where there will be no adverse impact on natural wetlands, waterways, and groundwater.
- 2.3.1.7 For agricultural areas in wetlands and buffer areas, management practices that would improve water quality and conserve water as recommended by the National Resources Conservation Service should be encouraged.

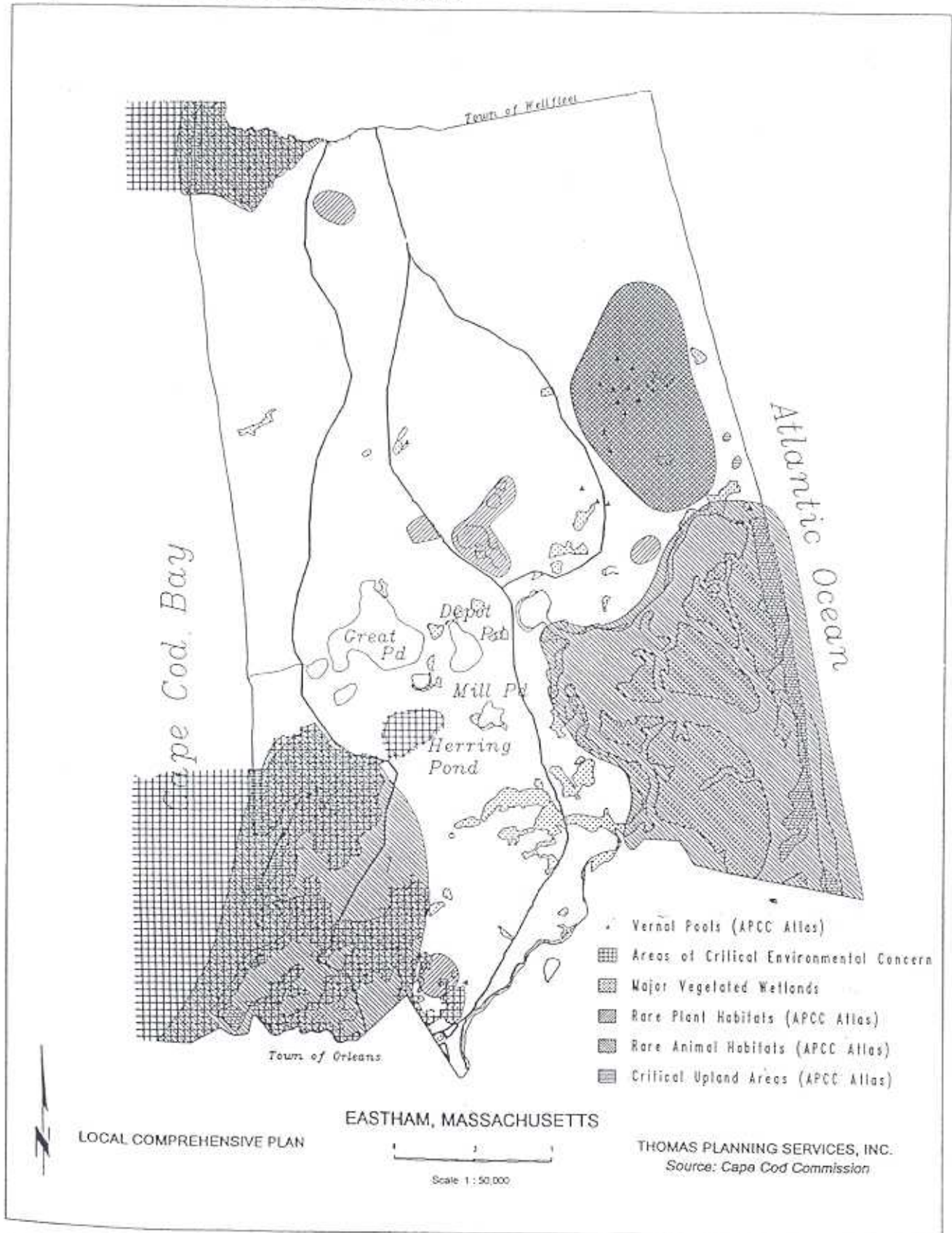
Existing Conditions

Wetlands in Eastham include both freshwater wetland and salt marsh vegetation. The salt marsh exhibits definite zones in the arrangement of its plant species. The limits of the marsh zones are determined by plants' responses to varying salinity and the frequency of tidal flooding. This zonation is most easily seen in the occurrences of the marshes' two most dominant plant species: the coarse, broad-leafed salt marsh cord grass (*Spartina alterniflora*) along the edge of the water, and the smaller salt meadow cord grass (*Spartina patens*) common to the largest and intermediate sections. Bordering the upper zone between high marsh and land vegetation is seaside goldenrod, blackrush and panic grass. Higher marsh ground that receives influxes of fresh water is colonized by cattails and phragmites.

Swamps and bogs, whose primary species are red maple, black tupelo, gum, alder, arrow wood, high bush blueberry, willows and milkweed, are found further inland. The climatically associated soils on Cape Cod are podzols. Their existence in this less than normal hostile climate is due to the porosity of the glacial material and the rapid leaching associated with it.

Certain tidal wetlands in Town are impaired due to tidal restrictions. Further details can be found in the *Cape Cod Atlas of Tidally Restricted Salt Marshes* (Cape Cod Commission, 2001) for the Town of Eastham.

Map 5: Wetlands, Wildlife and Plant Habitats



Implementation

Recommended Town Actions

- A. Wetlands and vernal pool should be mapped, identified, and protected so as to maintain their ability to provide natural functions. Local schools should be encouraged to participate in this effort.
- B. Adopt a wetlands bylaw that provides for the following: protection of vernal pools outside other resource areas as well as isolated wetlands, a policy of no alteration/replication of wetlands for both public and private applicants, expansion of jurisdiction beyond 100 feet where appropriate, improved enforcement authority, and the ability to hire consultants to review applications at the applicant's expense.
- C. The Conservation Commission should work closely with the Board of Health and other relevant town boards to develop mutually acceptable policies for wetland boundary delineation and the siting of new subsurface disposal systems in relation to these areas as well as improving and retrofitting areas with failing systems.
- D. Develop and implement plans to address existing stormwater management problems where runoff and drainage systems are adversely affecting water quality in wetlands and water bodies.
- E. Seek ways to remedial tidal restrictions, including incorporating improvements to restricted areas into planned road and bridgework and by seeking funding and partnering opportunities with the state and affected private entities.
- F. Conduct an analysis to assess potential growth impacts to wetland areas, identifying those that are protected as well as those threatened by development. The map developed for the analysis should be used to develop strategies to address identified threats.

See “Wetlands” and “Wildlife and Habitat” in the Implementation section.

NATURAL RESOURCES - WILDLIFE AND PLANT HABITAT

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for Wetlands. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan.

- 2.4.1 Goal:** To prevent loss or degradation of critical wildlife and plant habitat to minimize the impact of new development on wildlife and plant habitat and to maintain existing populations and species diversity.

Minimum Performance Standards

- 2.4.1.1 Developments shall be planned to minimize impacts to wildlife and plant habitat. Natural resources inventories shall be prepared in accordance with the Plant and Wildlife Habitat Assessment Guidelines, Technical Bulletin 92-002.
- 2.4.1.2 Clearing of vegetation and alteration of natural topography shall be minimized, with native vegetation planted as needed to enhance or restore wildlife habitat. Standing specimen trees shall be protected. The permitting authority may require designation of building envelopes (for structures, driveways, lawns, etc.), where appropriate, to limit removal of vegetation.
- 2.4.1.3 Fragmentation of wildlife and plant habitat shall be minimized by the establishment of greenways and wildlife corridors of sufficient width to protect not only edge species but also species that inhabit the interior forest, as well as by the protection of large unfragmented areas, and the use of open space or cluster development. Wildlife shall be provided with opportunities for passage under or across roads and through developments where such opportunities will maintain the integrity of wildlife corridors. Fencing shall not be constructed so as to interfere with identified wildlife migration corridors.
- 2.4.1.4 Developments that would adversely affect habitat of local populations of rare wildlife and plants shall not be permitted. Development may be permitted where the proponent can demonstrate that such development will not adversely affect such habitat. A wildlife and plant habitat management plan may be required as a condition of approval when development or redevelopment is permitted in critical wildlife and plant habitat areas.
- 2.4.1.5 Where a project site is located adjacent to a vernal pool (as defined herein) or within or adjacent to wetland-dependent rare species habitat, development shall be prohibited within a 350-foot undisturbed buffer around these wetland resources. New stormwater discharges shall be located a minimum of 100 feet from vernal pools.

- 2.4.1.6 Development on sites where a natural resources inventory identifies the presence of invasive plant species shall provide and implement a management and restoration plan detailing the management of, and where possible, the eradication of the invasive species present, and for revegetating the site with native species.

Other Development Review Policies

- 2.4.1.7 Measures to restore altered or degraded upland habitat areas should be encouraged where ecologically appropriate (e.g., sandplain grasslands, Pine Barrens, etc.).

Existing Conditions

Eastham's original forest was stripped in the early years of the area's settlement. With soil depletion from agricultural activities and wind action in exposed areas, along with frequent forest fires and repeated cutting, regrowth of most species has been inhibited. The present forests of the Cape are classified as pine-oak climax forests. The oak species most common include scrub oak, white oak, red oak and pin oak. The most prevalent pine variety is the pitch pine, which dominates this area characterized by poor dry soils. In addition to the forested areas, Eastham is also characterized by freshwater wetland and salt marsh vegetation as described in the previous section.

An unusually diverse array of coastal habitats provides for a correspondingly high diversity of coastal organisms. Outer Cape Cod, although somewhat isolated from the mainland, nevertheless attracts many "mainland" birds and mammals, and is especially important to migratory species. In addition, its unique geographical position and ocean-moderated climate are in part responsible for the presence of many plants and animals at the limits of their geographical range. A newcomer to the area, Eastern coyote populations have become well established in Eastham within the past ten years.

Wetlands and wetland-dependent flora and fauna predominate. Most important game animals, as well as "passively" enjoyed songbirds, raptors, colonial waterbirds, reptiles, amphibians and of course fish, depend on wetland habitats for food and cover. Coastal swamps, marshes and wet meadows are habitat for deer, muskrat, raccoon, red fox, cottontail rabbits, woodcock, and migratory waterfowl. The shrubby borders of coastal marshlands and kettlehole swamps provide outstandingly good feeding and nesting cover for songbirds and small mammals.

Several agencies are compiling and updating information on rare, threatened, or endangered species and many local people provide information to these agencies based on extensive local observation. Scientific staff of the Cape Cod National Seashore monitors rare species within the Park. The U.S. Fish and Wildlife Service conducts field investigations on nationally significant species. The Massachusetts Natural Heritage Program (Department of Fisheries and Wildlife) maintains an ongoing inventory of rare, threatened and endangered plants and animal species, as well as the geographic locations of critical ecosystems. The review by the Massachusetts Natural Heritage Program shows Eastham to be important to a large number of state and/or federally designated rare, threatened or endangered "species."

Implementation

Recommended Town Actions

- A. Wetlands and vernal pool should be mapped, identified, and protected so as to maintain their ability to provide natural functions. Local schools should be encouraged to participate in this effort.
- B. Develop a review process for activities in critical plant and wildlife habitat areas that could adversely impact such habitat and/or seek designation as significant habitat areas under the Massachusetts Endangered Species Act.
- C. Adopt by-laws/ordinances limiting land clearing and alteration of natural topography prior to development review.
- D. Conduct an analysis to assess potential growth impacts to wildlife and plant habitat areas, identifying those that are protected as well as those threatened by development. The map developed for the analysis should be used to develop strategies to address identified threats.

See “Wildlife and Habitat” and “Wetlands” in the Implementation section.

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NATURAL RESOURCES - OPEN SPACE AND RECREATION

Town of Eastham Goals and Minimum Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for open space and recreation. Eastham's goals and performance standards are consistent with the Regional Policy Plan.

- 2.5.1 Goal:** To preserve and enhance the availability of open space on Cape Cod and provide wildlife habitat, recreation opportunities, and protect the natural resources, scenery, groundwater quality, air quality, and character of Cape Cod, Barnstable County shall strive to protect as open space at least 50% of the developable land remaining as of 1996.

Minimum Performance Standards

- 2.5.1.1 Development or redevelopment within significant Natural Resource Areas, as illustrated on the Cape Cod Significant Natural Resource Area Map dated January 10, 2002, as amended, shall be clustered away from sensitive resources and maintain a continuous corridor to preserve interior wildlife habitat. Where a property straddles the boundary of an area shown on this map, development shall be clustered outside the boundary. The primary function of these areas is the provision of groundwater recharge, wildlife habitat, open space, scenic roadways, appropriate recreational opportunities and protection of the Cape's natural character.
- 2.5.1.2 Preserved open space within proposed developments shall be designed to be contiguous and interconnecting with adjacent open space, and shall be subject to permanent conservation restrictions. Eastham may develop bonus provisions through their local by-laws to allow increased density for preservation of additional high quality open space. Additional guidance on dedication of open space for Developments of Regional Impact can be found in the Guidelines for Calculation and Provision of Open Space in Developments of Regional Impact, Technical Bulletin 94-001, as amended.
- 2.5.1.3 Residential, commercial, and industrial development qualifying as a Development of Regional Impact shall provide permanently restricted upland open space in accordance with the proportional calculation described below. Where appropriate, credit may be obtained for set aside of off-site open space or a contribution of funds may be made to the town, state, land trust, or the Compact of Cape Cod Conservation Trusts' Land Fund for open space acquisition at a per-point rate to be specified in the Guidelines for Calculation and Provision of Open Space in Developments of Regional Impact, Technical Bulletin 94-001, as amended. Off-site open space shall be provided in the town where development is proposed, unless the Commission finds, in consultation with the relevant towns, that the provision of off-site open space in an adjacent community on Cape Cod is appropriate.

Open space shall be designed to protect those portions of the site with the highest natural resource values as identified by a natural resources inventory. Within open space areas, the maximum amount of natural vegetation shall be maintained. No credit may be obtained for land that is set aside as open space on a residential lot on which a dwelling exists or may be built unless the lot is at least three acres in size. Where development consists of more than one type or is located in more than one area, open space totals shall be determined for each area and added together. No credit may be obtained for areas that have been dedicated as open space prior to the date of application. Where new development is proposed within Significant Natural Resource Areas, open space shall be provided within these areas. The requirements for Significant Natural Resource Areas shall apply to any certified Growth/Active Centers or Growth Incentive Zones that are located within a Significant Natural Resource Area, with exceptions as noted in Minimum Performance Standard 2.5.1.7. For the purpose of calculating the open space requirements, the development area for a project is any upland area affected by “development” as defined in the definitions section of the Regional Policy Plan, 2002, and as specified in Technical Bulletin, 94-001, as amended.

For proportional Calculation of Site Area for new development see Regional Policy Plan 2002, p 66.

- 2.5.1.4 Residential, commercial, and industrial redevelopment that qualifies as a Development of Regional Impact shall meet the open space requirements of MPS 2.5.1.3, except where the proportion of existing development to open space on the development parcel is less than that which is required, in which case the existing proportion shall be maintained. Redevelopment projects in Significant Natural Resource Areas shall provide no less than a 2:1 development to open space proportion either as on-site open space or an equivalent cash or off-site contribution, regardless of existing proportions, with exceptions as noted in Minimum Performance Standard 6.1.7.
- 2.5.1.5 In the design of developments, significant natural and fragile areas including critical wildlife and plant habitat; water resources such as lakes, rivers, aquifers, shore lands, and wetlands; historic, cultural, and archaeological areas; significant scenic roads and views; “unfragmented” forest (as mapped by the Cape Cod Commission); and significant landforms shall be protected.
- 2.5.1.6 Where development is proposed adjacent to land held for conservation and preservation purposes, the development shall be configured so as to prevent adverse impacts to these lands and in a manner that maximizes contiguous open space.
- 2.5.1.7 Notwithstanding Significant Natural Resource Area designation, where development is proposed in Growth Incentive Zones, the open space requirement shall be reduced to the proportion required for Growth Incentive Zones where a natural resources inventory demonstrates that there are no wetlands, surface water bodies, vernal pools, estimated rare species habitat, agricultural soils, priority natural communities, critical upland

areas, public water supply Wellhead Protection Areas, or other unique or fragile habitat within 100 feet of the site boundary.

- 2.5.1.8 As an incentive toward reducing the generation of impervious areas, protecting open space, and maintaining or improving community character, projects meeting parking requirements under proposed buildings or as a multi-storied parking garage may reduce their open space requirement by an amount equivalent to one half the area of each floor of garaged parking provided. Open space credit may not be obtained for parking spaces provided in excess of the minimum number of spaces required by local zoning.

- 2.5.2 Goal:** To preserve and enhance opportunities for passive and active recreation in the natural environment to meet the needs of both residents and visitors.

Development Review Policies

- 2.5.2.1 Recreational needs as identified in the 2000 Statewide Comprehensive Outdoor Recreation Plan, Local Comprehensive Plan, and open space plan should be addressed in the development of projects. Such needs include opportunities for wildlife study, expansion of trail corridors, protection of scenic roadways, development and expansion of access for the disabled, additional public beaches, and water-based recreational opportunities with associated parking facilities to the extent these minimize alteration of natural shorelines and do not harm wildlife habitat.
- 2.5.2.2 New development should provide suitable recreation and play areas to meet the needs of the residents of that development such as ball fields, playgrounds, basketball courts, or bicycle and walking paths.

Inventory of Existing Conditions

Protected Open Space

a. Cape Cod National Seashore

The Cape Cod National Seashore along Eastham's eastern boundary provides a passive and active recreational facility of more than 3,000 acres or close to one-third of the Town. The Seashore is a favorite national destination spot and provides miles of beaches, swimming, windsurfing, nature trails, bicycling, horseback riding, fishing and hunting. The park is operated by the National Park Service (U.S. Department of the Interior), and was established by an Act of the U.S. Congress on August 7, 1961. The legislation protects the land by specifying preservation as the primary goal:

"In order that the Seashore shall be permanently preserved in its present state, no development or plan for the convenience of visitors shall be undertaken which would be incompatible with the preservation of the unique flora and fauna or the physiographic conditions now prevailing or with the preservation of such historic sites and structures."

The legislation does allow the National Park Service to:

"... provide for the public enjoyment and understanding of unique natural, historic and scientific features of Cape Cod within the Seashore by establishing such trails, observation points, and exhibits and providing such services as may be deemed desirable for such public enjoyment and understanding..."

The Seashore receives approximately five million visitors yearly and virtually all of these visitors pass through the town of Eastham. The Salt Pond Visitor Center in Eastham is one of the main entrances to the Seashore. Other National Seashore attractions within the town of Eastham include Fort Hill, Nauset Light Beach and Coast Guard Beach, and Doane Rock Picnic Area.

The National Seashore has one beautiful sandy beach in Eastham with two entrances. The beach extends from the spit south of Coast Guard Beach to Wellfleet. The Coast Guard maintained a sea rescue station at this location, hence its name. A total of 825,000 people visit the beach annually. The National Seashore maintains 55 parking spaces with comfort facilities provided including outside showers for bathers. The National Seashore provides additional parking off Doane Road at both the Doane Rock and Little Creek areas. Shuttle service is provided to both Coast Guard and Nauset Light beaches from these parking areas.

Nauset Light beach is approximately two miles north of Coast Guard beach. This beach provides 150 parking spaces and receives 700,000 visitors each year. A comfort station and showers are provided.

Park rangers patrol the Seashore throughout the year. They also provide guided tours to many of the Seashore's attractions and historic sites. There is also a large Visitors Center with many on-going activities.

b. Town Owned Open Space

Eastham has over four hundred and eighty five acres of Town owned open space holdings, some of which are also historic areas. These areas provide a variety of outdoor experiences to both residents and visitors. In addition, the Town owns 64 acres of land known as the Roach property located on North Sunken Meadow Road and is in the process of determining its use.

Table 8: Town-Owned Open Space

Name	Location	Acreage
South Eastham Conservation area	Peach Orchard Way	24.0
Cottontail Acres (Horton)	Samoset Road	18.0
Boat Meadow	off Bridge Road	168.5
Deacon Paine Road	Deacon Paine Road	0.7
Minister's Pond	Schoolhouse Road	5.0
Herring River	off Herring Brook Road	13.5
North Sunken Meadow		12.4
Nickerson Parcel	Cole Road West	26.6
Outer Beach	Map #30 D 5	2.0
Rock Harbor	Dyer Prince Road	10.0
Salt Marsh	Map #67 E 2	2.5
Sunken Meadow	Map #65 B 2	2.0
Sunset Avenue	Map #28 G 2	5.5
Town Forest	Map #33 C 4 & C 5	128.0
Eastham Windmill	Samoset Road	1.6
Wiley Park	Herringbrook Road	40.0
*Upper Boat Meadow	Smith Lane	19.2
Gutzler	John Thomas	5.6
Total Town-owned Open Space:		485.1

** This was purchased from the Aschettinos, 1/3/02.*

Source: Eastham Open Space Committee

c. Eastham Conservation Foundation

Table 9 lists the land holdings of the Eastham Conservation Foundation, which include 43 parcels ranging in size from under one acre to more than 30 acres. To date, the Conservation Foundation has acquired over 214 acres, of which almost 76 percent is considered wetlands.

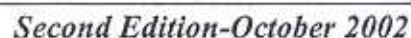


Table 9: Landholdings of the Eastham Conservation Foundation

ID	date	GRANTOR	Total	up	wet	HABITAT	map	pel
001	Dec-80	WILLIAM F. KENNEY	21.21	0.00	21.21	SALT MARSH	13	115
002	Nov-82	RICHARD & KATE WALLACE	1.15	1.01	0.14	SALT MARSH / UPLAND	20	009
003	Dec-83	ARTHUR & JOSEPHINE KING	0.80	0.20	0.60	SALT MARSH	01	042
004	Nov-84	DAVID & AUDREY GREENWALD	0.67	0.67	0.00	ERODING BLUFF	23	017
05B	Feb-85	ROBERT THAYER	15.21	0.00	15.21	SALT MARSH	14	010
05A	Feb-85	ROBERT THAYER	0.73	0.52	0.21	SALT MARSH & COASTAL	14	011
006	Jun-86	SALT MEADOW CORP. (HEFFERNAN)	9.49	1.51	7.98	VEGETATED WET	17	031
007	Sep-86	DANIEL & HAZEL PEASE	0.77	0.00	0.77	SHRUB SWAMP	12	042A
008	Jan-89	NATURE CONSERVANCY (THOMAS)	1.03	0.68	0.35	COASTAL DUNE, BEACH	13	059
009	Dec-90	LAURA KELLY	25.95	1.44	24.51	MARSH - OLD BOG	17	687
010	Dec-90	NANCY H. HELLER	1.24	1.24	0.00	UPLAND LOCUST GROVE	15	120
011	Aug-91	J. A. STOEHR & P. NICHOLSON	3.09	3.09	0.00	PINE & HARDWOOD	02	002
014	Dec-91	MARGARET WEILER	3.49	3.49	0.00	PINE & HARDWOOD	05	027
015	Dec-91	V. VAN KEUREN & C. FELDMANN	0.70	0.49	0.21	SALT MARSH & UPLAN	19	106
018	May-92	CAPOWACK TRUST	19.85	0.51	19.34	WHITE CEDAR,		
					MAPLE SWAMP		18	225
019A	Dec-92	V. VAN KEUREN & C. FELDMANN	0.28	0.28	0.00	PINE WOODS	12	262
019B	Dec-92	V. VAN KEUREN & C. FELDMANN	0.32	0.32	0.00	PINE OAK WOODS	12	267
020	Aug-93	LAURA KELLY	5.40	3.69	1.71	PINE WOODS/ MARSHBOG	17	772
022	Nov-93	COLLIS D. & JOANNE D. PETERS	34.25	0.00	34.25	SALT MARSH	17	491
023	Dec-93	ROBERT & DOROTHY MATHER	0.51	0.00	0.51	SHRUB SWAMP	19	064
024	Jun-94	ABNER & ELIZABETH PRATT	0.46	0.43	0.03	PINE / OAK WOODS	15	019
025	Jun-94	NANCY HELLER (HOFFMAN)	1.24	0.69	0.55	LOCUST GROVE	18	314
026	Oct-94	TOREY MONTESSI & CAMILLA BERRI	3.79	3.79	0.00	PINE / OAK WOODS	05	021
027A	Nov-94	DANIEL & HAZEL PEASE	1.24	0.52	0.72	SHRUB SWAMP	12	037A
027B	Nov-94	DANIEL & HAZEL PEASE	0.87	0.67	0.20	PINE WOODS	12	038A
028	Dec-94	PHILLIP D. CHASE, SR.	7.43	7.43	0.00	PINE / OAK WOODS	05	023B
029A	Dec-94	BEATRICE BURKE (CODDING)	1.34	1.34	0.00	DUNE, BEACH	19	038
029B	Dec-94	BEATRICE BURKE (CODDING)	1.08	1.08	0.00	DUNE	19	039A
030	Jan-95	CHASE HIGGINS REALTY TRUST	2.54	0.00	2.54	SALT MARSH	13	124
031	Aug-95	MILDRED H. CUMMINGS	0.35	0.35	0.00	CEDAR FIELD	12	203
032	Nov-95	JOHN J. COLEMAN	1.91	1.91	0.00	PINE / OAK WOODS	06	143
033	Nov-95	ALBERT J. AVELLAR, JR.	1.79	0.00	1.79	SALT MARSH	20	091
035	Dec-95	JOHN R. SIBLEY	26.66	1.51	25.15	SALT MARSH / OLD BOG	01	015
036	Oct-96	MARY SUE DUNSFORD	0.62	0.12	0.50	VERNAL POOL	18	155
038	Aug-97	BERNADETTE L. RYDER	2.70	0.00	2.70	SALT MARSH	16	007
039	Oct-97	RICHARD A. MARTIN	1.01	0.75	0.26	MIXED TRANSITION	19	115D
040	Oct-97	RICHARD A. MARTIN	0.42	0.39	0.03	SHRUB THICKET	19	115C
043	Mar-98	JAMES N. CARTER	1.30	0.33	0.97	SALT MARSH; BANK	14	006
041	Jun-98	BARBARA E. (MAIR) LITTLE	0.67	0.36	0.31	PONDShORE, WETLAND	11	348
042	Nov-98	PHILIP H. & MAYBRITT L. RYDER	0.71	0.42	0.29	PONDShORE	11	366
044	Jun-99	LAURA R. KELLY	6.85	6.25	0.60	COASTAL HEATH	17	687
045	Jun-00	WYMAN RICHARDSON	0.75	0.50	0.25	VERNAL POOL & UPLAND	12	212
047	Dec-00	JACQUELINE DUFFEK	2.83	2.83	0.00	UPLAND BORDERING	20	058
TOTAL			214.7	50.8	163.9			

Source: Eastham Conservation Foundation, Inc

d. Land Protected by Conservation Restrictions

Eastham has adopted guidelines that set forth conservation restriction procedures for the Town. Conservation restrictions place limits on the future development of a parcel of land thereby retaining it in a natural or open condition. The title remains with the owner and public access is not necessarily provided. An organization, such as the Eastham Conservation Foundation or Massachusetts Audubon Society generally holds the restriction. The town's guidelines note "studies have indicated that restricted land generates a substantial net savings to the town." It adds, "...for this reason, every effort should be made to promote conservation restrictions in the town." Land of any size may be placed under conservation restriction and such restrictions generally carry an 85% tax abatement (95% if public access is permitted). The following parcels are subject to a conservation restriction in the town.

Table 10: Land Protected By Conservation Restrictions

ID	DATE	GRANTOR	TOTAL	UPLAND	WET	HABITAT	MAP	PARCEL
012	Sep-91	ERNEST & WILLA HOLLIS	2.74	1.58	1.16	POND & FIELD	08	295A
013	Oct-91	MARIAN THOMAS	1.01	1.01	0.00	POND FRONTAGE & PINE WOODS	13	079
016	Dec-91	LAURA KELLY	10.83	10.50	0.33	MIXED PINE & HARDWOOD	17	687G
017	May-92	ESTATE OF CODDING	7.55	3.02	1.51	DUNE, FIELD, BEACH, MARSH	19	041
021	Oct-93	OPEL / EMERSON	3.32	2.78	0.54	MIXED PINE WOODS / SWAMP	11	061
034	Nov-95	MARIAN P. THOMAS	5.45	5.45	0.00	COASTAL HEATH / DUNE	13	74B
037	Dec-96	MILDRED CUMMINGS	6.50	4.49	2.01	POND; PINE WOODS	12	300
046	Dec-00	COOK & HAKE	1.41	0.60	0.21	VERNAL POOL AND UPLAND	12	234
048	Nov-01	SIBLEY	5.60	5.60	0.00	PINE OAK WOODS	01	074
049	Nov-01	KOSARICK	7.70	7.70	0.00	PINE WOODS	04	456
TOTAL			52.11	44.45	7.66			

Source: Eastham Conservation Foundation, Inc

Other Critical Open Lands

a. Preferentially Taxed Lands

There are three state programs, known as preferential assessments, which provide for reduced property taxes for landowners. These are Chapter 61--the Forestland Act, Chapter 61A--the Farmland Assessment Act and Chapter 61B--the Open Space Act. A landowner participating in one of these programs commits a property to agriculture, forest or recreation for a period of time. In exchange, the town reduces taxes and is granted the right to purchase the property if and when it is removed from the Chapter 61 classification for conversion to residential, commercial or industrial use. Under these programs, the reduction in taxes is generally 75-95%. A landowner must pay penalties if the land is removed from the program.

Lands in this program should not be considered protected open space. The town has 120 days in order to purchase property in one of these programs under the right of first refusal

provision and must match a bona fide purchase price. The town's option can also be assigned to a nonprofit organization. However, in many cases towns do not have the financial ability to purchase these lands unless they have planned ahead for such acquisitions.

Table 11: Land Subject to Preferential Taxation

Program	Owner/Location	Acreage
Chapter 61	Fellers/255 Higgins Rd.	35.40
Chapter 61A	G. Handel/1765 Massasoit Rd.	11.69
Chapter 61B	Atlantic Oaks (Campground) Rt. 6	17.10
Chapter 61B	C. Baldwin/Dyer Prince Rd.	<u>22.66</u>
Total Acreage Subject to Preferential Taxation:		86.85

Source: Eastham Assessors Records

b. Ponds

There are eleven (11) ponds in Eastham: Molls, Minister's, Great, Long, Jemima, Muddy, Herring, Depot, Widow Harding, Baker's and Deborah's Pond. These ponds, which are surface expressions of groundwater, have good water quality, and provide swimming and boating opportunities. Many of these ponds are privately owned. In addition to these ponds, four additional surface water bodies exist. These include Salt Pond Bay, Nauset Bay, Herring River, and Boat Meadow River.

Table 12: Eastham's Largest Ponds (Acres)

Great Pond	109
Herring Pond, (Coles Pond)	43
Long Pond (Depot Pond)	25
Minister's Pond (Meetinghouse Pond, Eastham Center Pond)	21
Little Muddy Pond (Muddy Pond, Mill Pond)	11
Bridge Pond	10
Widow Harding Pond	9
Jemima Pond	6
Total	<u>234</u> acres

c. Landings and Beaches

Public access to water in Eastham is found in many forms. Eastham has 10 Town landings and 11 Town beaches, totaling 66 acres, as shown on Table 13 below. These beaches provide extensive recreational opportunities including swimming, fishing, boating, surfing and walking.

For a complete listing of public access to water and the facilities offered at each, including the beaches belonging to the Cape Cod National Seashore, see Table 14 next page.

Table 13: Town-Owned Landings and Beaches

Name	Location	Acreage
Boat Meadow Landing	Bay View Drive	8.3
Collins Landing	Route 6	0.1
Great Pond Landing and Beach	Great Pond Road	1.0
Minister's Pond Landing and Beach (Fishermans Landing)	Schoolhouse Road	1.0
Salt Pond Landing	Route 6	6.4
Hemenway Landing	Hemenway Road	1.3
Jemima Pond Landing	Samoset Road	0.7
Herring Pond Landing & Beach	Herring Brook Road	0.9
Campground Beach	Campground Road	2.2
Cooks Brook Beach	Steele Road	4.3
Sunken Meadow Beach	S Sunken Meadow Rd	1.0
Thumpertown Beach	Thumpertown Beach Rd	1.0
Cole Road Beach	Cole Road	1.0
First Encounter Beach	Samoset Road	34.0
Wiley Park Herring Brook Road	2.5	
Kingsbury Beach	Kingsbury Beach Road	0.3
Rock Harbor Landing	Dyer Prince	<u>N/A</u>
Total Town-Owned Landings and Beaches:		66.0Acres

Source: Eastham Open Space Committee

Recreational Facilities

a. Town Facilities

There are three indoor facilities primarily used for recreational activities. These include: the Nauset Regional High School gymnasium, the Eastham Elementary School gymnasium, and the Eastham Council on Aging facilities.

Outdoor active recreational facilities include the Nauset Regional High School soccer field, track and tennis courts; the Eastham Elementary School ball field and playground; the baseball, softball and soccer field and basketball court behind the Town Hall and the Wiley Park playground, bridle path and swimming area. The following is a list of recreation facilities including National Seashore Beaches:

Table 14: Recreation Facilities

Location	Docks/Piers Floats	Launch	Beach	Picnic	Showers	Restroom
Boatmeadow			X			
Campground Beach			X		X	
Coast Guard Beach			X		X	X
Cole Road			X			
Collins Landing			X			
Cooks Brook Beach			X			X
Doane Rock				X		X
First Encounter Beach			X			X
Great Pond Beach		X	X			X
Hemenway		X				
Herring Pond		X	X			X
Jemima Pond		X				
Kingsbury			X			
Minister's Pond			X			
Nauset Light Beach			X		X	X
Rock Harbor	X	X				
Salt Pond		X				
Sunken Meadow Beach			X			
Thumpertown			X			X
Wiley Park	X		X	X		X

Source: Local Comprehensive Planning Committee

b. Cape Cod Rail Trail

Recreation Facilities

Cape Cod is home to some of the best cycling available in New England today. It is the home of the famous Cape Cod Rail Trail; a twenty eight-mile paved trail. The Rail Trail extends from Route 134 in South Dennis to Lecounts Hollow Road in South Wellfleet. The Rail Trail occupies a former Rail Road right of way, which was used to bring passengers and freight to Cape Cod in the early 1800's to approximately 1960. The Department of Environmental Management of Massachusetts manages the trail. The trail passes by many points of interest and several pristine ponds and lakes suitable for swimming and picnics. The trail is patrolled by the staff of Nickerson State Park and local police officers assigned to bike patrol.

In Eastham the Cape Cod Rail Trail runs north to south for approximately six miles. The trail is approximately eight feet in width and provides a walking and biking route connecting the towns of Orleans to the south and Wellfleet to the north. Limited parking for vehicles and restrooms are provided in Eastham along this trail. The National Seashore Bike Trail runs from National Seashore Visitor Center (Nauset Road at Route 6) to Coast Guard Beach (approximately 1-1/2 miles). Parking is provided in the Visitor Center. Several biking/hiking trails, which would link the existing Cape Cod Rail Trail and the National Seashore Bike Trail, and allow for additional non-motorized access to the Bay and Ocean sides, have been proposed; one of which would take advantage of the Cape Cod Regional High School parking facilities.

Proposed Bike Routes in Eastham:

1. A route from Nauset Regional High School to Nauset Beach and Coast Guard Beach.
2. A route from the National Seashore Visitor Center to the bay beaches.
3. A route from where the existing trail intersects with Brackett Road to the North Eastham Post Office shopping area to eliminate bike traffic on Brackett Road.

c. Camping Opportunities

There are no publicly managed campgrounds in Eastham. There is one private campground on Route 6 that permits tent camping.

Analysis of Open Space and Recreation Needs

Current and Future Demand for Open Space and Recreational Opportunities

Eastham has a great diversity of open space and recreation opportunities as demonstrated in the inventory above. At the same time, the Town has a very active retired population. The survey conducted by Eastham's Local Comprehensive Planning Committee shows that the amount and frequency of use of open space and recreation facilities by Eastham residents does not really decrease until after age 80.

In the 1995 Capewide Residents Survey conducted by the Cape Cod Commission 87% of residents said that "amount of open space" was important to them in making the decision to live or vacation on Cape Cod and 77% cited "recreational opportunities." In addition, residents supported increasing taxes to pay for acquisition of open space for water supply protection (81%) and passive recreational use (64%). A total of 67% supported a town land acquisition program to limit the potential population growth in their town. A requirement that developers of all large projects donate land to the community for use as public open space was supported by 66% of those responding. Although the 1995 survey did not have a large enough sample size to compare results among towns, a similar survey conducted in 1990 permitted such comparisons. It is notable that Eastham residents' responses were consistent with those of the rest of Cape Codders in most cases with regard to open space issues. Despite the presence of Cape Cod National Seashore, 43% of Eastham residents stated in 1990 that loss of open space was a serious problem facing their town, compared with 49% for the Cape as a whole. In addition, in 1990 51% of Eastham residents supported legislation to create a land bank through a real estate transfer tax, the second highest margin of support in any town on Cape Cod (Wellfleet was the highest). Support for this proposal was even greater in the 1995 survey.

It is clear from the Land Use and Transportation elements of the Eastham Local Comprehensive Plan that the impacts of buildout of the town will adversely affect community character and the functioning of the town's transportation network. Based on long-term growth trends, it appears that all of the town's vacant residential land could be developed by 2010 -- a mere 8 years away. The town's 2000 year-round population was 5453, and by 2010 it is projected to be between 6220 and 14,100 depending on the proportion of seasonal to year-round residences that is used in the estimation. Based on the 485.1 acres of open space and the current population, the protected open space per capita is .89 acres. This additional growth will create increased pressure on existing open space and recreation facilities and will also reduce the amount of perceived open space within the Town of Eastham. "Perceived" open space is a total of protected open space combined with undeveloped land. As these undeveloped lands are converted to residential use, the amount of "elbow room" within the Town will be reduced.

It is clear that unless additional open space is acquired, the amount of protected open space per person will be dramatically reduced by projected levels of residential growth over the next 8 years. In the process the character of the community – and of individual neighborhoods – will be changed.

The town has several options for changing this future scenario – reducing the amount of growth through changes in zoning, undertaking an ambitious land protection program or some combination of the two. Data from the Outer Cape Capacity Analysis indicates that most existing vacant residential lots in the Town are less than one acre. Only 17 lots are greater than 5 acres and those would support approximately 96 dwellings. It appears, therefore, that changes in zoning are unlikely to significantly alter future build out projections, making land protection the best method for reducing overall buildout.

Eastham has an approved Open Space and Recreation Plan on file with the Massachusetts Department of Environmental Management. This plan is water driven, that is to say that

protection of water resources is the goal on which all other goals hinge. The overall strategy of protecting half of the remaining undeveloped land in Eastham looks to protect groundwater, surface water and coastal resources. Bounded on two sides by water and with many interior ponds, wetlands and coastal embayments, the relationship between land and water is critical. A set of criteria has been set forth in this plan that guides the selection of open space purchase.

Eastham also maintains an Open Space Lands Management Plan which designates the tasks to be done annually in order to maintain town owned open space properties in keeping with the following three goals: 1. Keep it natural, 2. Make it accessible and 3. Render it educational. These plans are maintained by the Open Space Committee, which is also responsible for recommending Land Bank expenditures to Town Meeting.

Opportunities to Meet Town Open Space Needs

a. Funding for Land Protection.

There are a variety of potential funding sources for open space acquisition. An act of the Massachusetts legislature authorized establishment of a Cape Cod open space Land Bank Act. The Town has adopted the program placing a three percent tax on each real estate levy within the Town until January 1, 2020. Revenue from this Land Bank fund was the major component in the purchase of the 19.2-acre Upper Boat Meadow parcel in January 2002. The Massachusetts Legislature also has adopted an Open Space Bond Bill that provides funds for local acquisition projects. Funds from this program have been used to help purchase 43.2 acres of open space in Eastham. The Town has created its own land acquisition fund into which \$75,000 is appropriated annually from free cash as available. Additional funds for acquisition of Cape Cod Pathways trail linkages (see below) may come from DEM trail grants, Land Bank or land trust purchases, negotiation of easements or other sources.

b. Subdivision Control Law/Special Permits

Chapter 41, Section 81U provides that "before approval of a plan by a planning board, said board shall also in proper cases require the plan to show a park or parks suitably located for playground or recreation purposes or for providing light and air and not unreasonable in area in relation to the area of the land being subdivided and the prospective uses of such land, and if so determined said board shall by appropriate endorsement on the plan require that no building may be erected on such park or parks for a period of not more than three years without its approval."

During this three-year period the town could seek funds to compensate the developer for such open space/park dedication. This provision offers an opportunity to provide for the open space and recreational needs of residents within the larger subdivisions in the town.

In addition, the Town should consider making greater use of cluster zoning to provide open space within residential subdivisions. Assessors' data indicates that there are only 5 parcels greater than 10 acres within the Town. There are approximately 12 parcels between 5 and 10 acres. Expanding the use of the cluster bylaw to parcels that are a minimum of 5 acres in size would allow for greater use of this bylaw provision, and at the same time allow for design that accomplishes open space protection objectives.

Opportunities to Meet Town Recreational Needs

Perceiving a need for a specific beach facility for Town residents a group of advocates has formed a committee to explore establishment of a beach/parking lot south of Nauset Light Beach with facilities on Town owned land. The committee's proposal is structured to relieve the Town of any financial obligation. The proposal received strong support by resolution at the May 2002 Town Meeting. It must now address regulatory and environmental issues in appearances before appropriate Town boards and/or commissions.

Eastham will play an important role in the Cape Cod Pathways project. Cape Cod Pathways is a regional effort to create a Capewide interconnected network of walking trails. The Barnstable County Commissioners/Cape Cod Commission are coordinating this project with assistance from several other agencies and organizations. The Eastham Board of Selectmen has endorsed this project. The County and the Town will be working together over the next few years to identify trail routes, identify acquisition needs and dedicate trail segments. The first priority within the Town of Eastham is to identify a north-south "spine" for the trail. Lateral trail segments will also be planned. Biking/hiking connectors from the existing Cape Cod Rail Trail to the bay and ocean sides would provide for increased recreational opportunities.

Safety issues are a concern along the existing bike paths. Painted crossings on major roads, signage for motorists and cyclists, lighting where appropriate, emergency telephones and courses on bicycle safety should be provided. A Hiking/Bikeways Committee could recommend mitigating measures for potential problems and additional bicycle routes. In addition to connectors, parking facilities and comfort stations must be provided for these routes.

Need for an Open Space and Recreation Plan

The last Open Space and Recreation Plan for Eastham was submitted in 1999. This Plan should be updated every five (5) years in order to be eligible for State Open Space funding and to assess the current and projected open space and recreation plans for the Town. This is particularly important in view of the recently adopted Open Space Bond bill, which contains millions of dollars for local open space acquisition. The town's Open Space Plan has identified and prioritized areas in need of protection and/or acquisition by the Town.

Implementation

The following recommendations are suggested to maintain and improve the existing level of open space protection and recreation facilities and programs.

Recommended Town Actions

- A. Develop a comprehensive open space protection program in order to meet future open space and recreation needs, protect community character, reduce growth pressures and maintain community fiscal health. This program should include expanded use of town acquisitions, conservation restrictions, subdivision set-asides, protection of tax title lands and other methods of open space protection. Priority shall be given to the following areas:
 - 1) Zones of contribution to public water supply wells
 - 2) Future water supply areas
 - 3) Investigate feasibility of establishing a beach/parking lot on Ocean View Drive
 - 4) Construction of a multi-use building on town owned property for sport activities
 - 5) Rare species habitat and other critical habitats
 - 6) Unfragmented forest habitat
 - 7) Missing links between open space areas identified within the Capewide Greenbelt or Cape Cod Pathways/Bikeways networks.
- B. Update its Open Space and Recreation Plan every five (5) years and submit it to the State to maintain eligibility for Open Space funding under federal and state grant programs.
- C. Work with the Eastham Conservation Foundation to identify, acquire and manage open space and conservation restrictions. Priority should be given to the protection of significant natural and fragile areas described in 6.1.5 of this section.
- D. Work with the Eastham Conservation Foundation and with landowners participating in the Chapter 61 programs to acquire conservation restrictions on those lands or should set aside funds for their purchase if they are proposed to be sold for development.
- E. Develop a cluster by-law and actively promote its use where this alternative would allow protection of open space and recreation lands, environmentally sensitive areas and/or provide for needed trail corridors.
- F. Amend its subdivision regulations to take advantage of Section 81U of the Subdivision Control Law which permits towns to require open space set-asides within subdivisions for future acquisition.
- G. Continue to maintain and protect public access to both freshwater and saltwater bodies for recreational purposes.

- H. Investigate possible loops or connectors with the existing biking and walking paths, identify parcels for acquisition, establish a bike safety course, recommend measures to mitigate safety concerns, and identify opportunities for additional parking in proximity to the Cape Cod Rail Trail. In particular the Town should work with the National Park Service to develop open space and trail linkages to the Cape Cod National Seashore.
 - I. Maintain Town-owned land within the Cape Cod National Seashore as open space.
 - J. Continue to expand the current programs to include all age groups and consider additional sites for ball field and basketball facilities. In addition, the Recreation Commission should consider entering into an agreement with private resources in Town for an indoor swimming program for all age groups.
 - K. Construct a multi-use sports building.
 - L. Encourage landowners to restore blighted or abandoned areas to open space.
 - M. Aggressively seek to acquire tax title lands and hold them for community purposes such as open space and recreation where such use would be consistent with the Open Space and Recreation Plan.
 - N. Evaluate the need for a youth center community facility.
 - O. Consider recreation needs in the development of plans for the Town Hall area and for the Route 6 and Brackett Road area.
 - P. Revise Open Space Map to include key differentiating between types of ownership/control (e.g., town-owned open space, recreation areas, national seashore, land trusts, etc.)
- See “Open Space and Recreation” in the Implementation section.

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NATURAL RESOURCES - AIR QUALITY

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established an overall planning goal and minimum performance standard for Air Quality. Eastham's goal and minimum performance standard are consistent with the Regional Policy Plan.

- 2.6.1 Goal:** To maintain and improve Eastham's air quality so as to ensure a safe, healthful, and attractive environment for present and future residents and visitors.

Minimum Performance Standards

- 2.6.1.1 Developments shall be in compliance with the Massachusetts State Implementation Plan (SIP) and DEP's Air Pollution Control Regulations, 310 CMR 7.00.

Other Development Review Policies

- 2.6.1.2 Mixed-use development that results in a net decrease in automobile mileage and air emissions should be encouraged.
- 2.6.1.3 Drive-through services as part of development and redevelopment should be avoided to decrease emissions from engine idling.
- 2.6.1.4 Development and redevelopment should use energy-efficient means of construction, operation and maintenance in order to reduce air emissions.

Existing Conditions

The sources of air quality problems such as smog, acid rain, emission of greenhouse gases and other pollutants travel widely in the atmosphere and Eastham is not entirely in control of its own air quality destiny. Regional sources of air pollution as far away as the Great Lakes and New York City can effect the Cape's air quality. Although air quality is a regional issue, it is important to recognize that local sources of air pollution also effect local air quality. Measures should be implemented to protect Eastham and to contribute to reducing regional air quality problems.

The Town of Eastham generally enjoys good air quality as does the rest of the Cape. However, over the last decade the Cape has experienced elevated ozone levels exceeding public health standards during the summer. The Pollutant Standard Index Reading, a measure of air quality, ranging from good to unhealthful, establishes a threshold of 100+ as unhealthful air quality (Table 1). In the summer of 2002 an air quality monitoring station in Truro measured an ozone reading exceeding 200, twice the unhealthful threshold.

Table 1: USEPA Air Quality Index

Pollutant Standard Index Reading	Color Coded Forecast	Air Quality
100+	Red	Unhealthful
89 - 99	Orange	Approaching Unhealthful
51 - 88	Blue	Moderate
0 – 50	Green	Good

These elevated levels contribute to decreased air quality as a result of the combination of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) and sunlight create “smog”. Increased ground level ozone can cause health problems including eye irritation, lung dysfunction and aggravating existing lung ailments. The primary sources of VOCs and NO_x emissions are motor vehicle fueling, tailpipe emissions, factories and power plants. The Massachusetts Department of Environmental Protection (DEP) estimates that stationary sources such as factories and power plants represent only 6% of VOC emissions. Since the bulk of smog forming emissions are generated by smaller mobile and stationary sources present in Eastham, some ways to improve air quality include: proper vehicle maintenance, reducing the number of short automobile trips and engine idling, using efficient heating systems, reducing the use of gasoline powered lawn and garden equipment, limiting wood and brush burning.

While the future of the Energy Wind Farm off Cape Cod in Nantucket Sound is uncertain, the energy produced by such a facility would be clean and contribute to cleaner air by offsetting the demand for energy from less efficient and higher emission-generating fossil fuel-fired generators. This would help to reduce overall emissions and promote higher average air quality in the region.

Implementation

Recommended Town Actions

- A. Eastham should examine existing land use patterns and identify suitable locations for mixed-use development aimed at reducing automobile travel and air emissions.
- B. The Town should work with the Commission and DEP to further the understanding of air quality problems that affect Eastham and provide public education about the ways residents and businesses can improve air quality.
- C. Promote the use of alternatives modes of transportation including: public transit services, carpooling, bicycling and walking to destinations when possible.
- D. Research the availability of bio-diesel and its potential use for the municipal fleet. Work with other outer cape towns to promote distribution of bio-diesel.

See “Air Quality”, “Land Use”, “Transportation” and “Energy Sections” in the implementation schedule.

ECONOMIC DEVELOPMENT

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for Economic Development. Eastham's goals are consistent with the Regional Policy Plan.

- 3.1. Goal:** To promote businesses compatible with Eastham's environmental, cultural, and economic strengths in order to ensure balanced economic development.

Minimum Performance Standard

- 3.1.1. Commercial/Industrial Developments of Regional Impact applicants shall be responsible for providing economic data. The Commission will evaluate the economic impacts of proposed developments, taking into account net job creation, fiscal impact, employee benefits, housing needs, and services and/or products provided. The Commission will consider any negative or positive impacts that a project may have on the Cape Cod economy.

Other Development Review Policies

- 3.1.2. The Commission recognizes the important role of private enterprise in maintaining and enhancing sound local and regional economies, and in providing needed services to the Cape's population. Market forces should determine the nature of new businesses or business expansion on Cape Cod, provided that the environmental and planning standards of the Regional Policy Plan are adequately addressed.
- 3.1.3. The Commission should evaluate the economic impacts of proposed developments, taking into account net job creation and services and/or products provided. The Commission should take into account any negative impacts that a project would have on the Cape Cod economy and should encourage businesses that are locally owned and that employ Cape Cod residents.
- 3.1.4. Technology and office businesses should be encouraged to locate in Growth/Activity Centers and Growth Incentive Zones.
- 3.1.5. Economic activities that create livable-wage jobs, target opportunities in high-value knowledge-based sectors, or involve traditional resource-based or cultural sectors should be encouraged. Potentially desirable opportunities include but are not limited to marine science, "clean" manufacturing, business services, environmentally oriented business, technology, telecommunications, shellfishing, aquaculture, finfishing, agriculture, health and elder care, social services, cultural activities, education, and enterprises that provide transportation solutions.

- 3.1.6. Development and redevelopment should encourage tourism and other activities that enhance the natural and cultural qualities of Cape Cod. Such activities include but are not limited to museums, art, theater, music and natural recreation areas.
- 3.1.7. Development and redevelopment should encourage the development of local businesses that can be integrated into the community without adverse impacts on Cape Cod resources. Such activities include but are not limited to consulting, direct-mail business, home-based business, arts, and crafts.
- 3.1.8. Development and redevelopment should encourage the reuse and rehabilitation of existing buildings for residential, industrial, and commercial growth, consistent with preserving the Cape's natural environment and historic character.
- 3.1.9. Development and redevelopment that increases the availability of and access to health and community services in Barnstable County should be encouraged.
- 3.1.10. Gambling casinos or casino boats on Cape Cod should be discouraged because casinos produce stresses on the region's environment, the limited transportation infrastructure, and economy.
- 3.2. Goal:** To locate development so as to preserve Eastham's environment and cultural heritage, minimize adverse impacts, and enhance the quality of life.

Minimum Performance Standards

- 3.2.1. As specified in other sections of the Regional Policy Plan, the following incentives shall be provided to encourage development and redevelopment to locate in certified Growth/Activity Centers:

The nitrogen standard for groundwater may be increased to 10ppm where such increase will cause no significant adverse impact on specified identified resources.

DRIs located within Growth/Activity Centers shall be allowed to reduce their estimated trip generation by 10% for the purposes of calculating their mitigation requirements.

Public and private sewage treatment facilities may be used.

New development within certified Growth/Activity Centers is required to provide open space at a proportion of 3:2 development to open space (see Minimum Performance Standard 2.5.1.3), less than that required in areas outside of certified Growth/Activity Centers.

Other Development Review Policies

- 3.2.2. Development and redevelopment should be concentrated in certified Growth/Activity Centers and Growth Incentive Zones in order to use land more efficiently; create places more oriented to pedestrians, bicyclists, and public transit; preserve open space, maintain the Cape's attractiveness; and create a mix of residential, work, and shopping uses for residents and visitors. It will be considered a benefit if a business locates in a Growth/Activity Center or Growth Incentive Zone.
- 3.2.3. Village Growth/Activity Centers should be maintained and restored by concentrating small-scale retail, office, housing, and community activities in these areas.
- 3.2.4. Large-scale commercial activities should be concentrated in regional Growth/Activity Centers or Growth Incentive Zones where adequate infrastructure is available.
- 3.2.5. Manufacturing and warehousing business activities should be concentrated in industrial Growth/Activity Centers.
- 3.2.6. Redesign, revitalization, and infill of existing strip developments should be encouraged where adequate infrastructure is available.
- 3.2.7. Resource-based economically productive areas including agricultural land, harbors, fishing grounds, and recreational areas should be reserved specifically for those uses.
- 3.3. Goal:** To encourage the creation and diversification of year-round employment opportunities.

Development Review Policies

- 3.3.1. Development and redevelopment projects should provide permanent, well-paying, year-round jobs, health, retirement and other benefits, employment training opportunities, and enhanced career-path opportunities for Cape Cod residents.
- 3.3.2. Development and redevelopment projects should be evaluated for net new jobs created, salary and benefit levels, occupational advancement opportunities for local workers, and the impact on existing businesses, traffic, natural resources, and affordable housing for employees. Minimum Performance Standard 5.3.1 of the Regional Policy Plan requires that nonresidential developments shall be evaluated as to the need for affordable housing created by the project. Any financial support for job training/education and/or affordable housing for workers will be considered a benefit.
- 3.3.3. Development and redevelopment projects should employ Cape Cod contractors and use local suppliers and workers. Project applicants should provide information describing the number of Cape Cod workers and contractors who worked on the project within three months from completion of the project.

3.3.4 Development and redevelopment projects should hire minority and women contractors listed with the State Office of Minority and Women's Business Assistance, and employ minorities, disabled, elderly, unemployed and under-employed persons in permanent positions. The employment of residents of Cape Cod in these positions will be considered a benefit.

3.4. Goal: To promote economic development that enhances Eastham's semi-rural character and protects its natural and historic resources.

Existing Conditions

The 1969 Comprehensive Plan noted that in 1966 forty-four (44) businesses existed in Eastham and the construction industry was the largest business sector, and accounted for almost half of all employment. Small business along with tourism has accounted for the majority of Eastham's economic health.

The Town Clerk estimates the town issued 296 business licenses in 2001, the majority if which were for home occupations which employed three or fewer persons. Table 15 shows employment rates and household income, total labor force 1999-2001 and household income for 2000.

Table 15: Employment Rates (1999-2001) and Household Income (2000)

	<u>1999</u>	<u>2000</u>	<u>2001</u>
Total Labor Force	2,629	2,620	2,661
Number Employed	2,519	2,519	2,541
Number Unemployed	110	101	120
Unemployment Rate	4.2	3.9	4.5
Income per capita		24,642	
Median Income per household		42,618	
Median Family income		51,269	

Source: U. S. Census, Comm. Of Mass. DET

This table confirms the stable or modest growth of the labor force.

Table 16 shows unemployment rates have declined since the high of 217 persons in 1991 to a 2001 low of 106. Certainly Eastham is not immune to the impacts of events on the world stage and September 11 events caused a significant downturn in the economy. Unemployment rates on the Cape were affected, but that effect was mitigated by the anticipated "end of season" downturn. Expectations are that Americans are traveling closer to home, and the Cape economy, and Eastham is expected to see the positive impact in local revenues based on increased rates of tourism.

The size of the labor force in Eastham has maintained a steady growth of 40-60 persons per year between 1990 and 2001, with the exception of 1990-1992 when there was a labor force reduction of 39 persons, and 1999-2000 when the number was nearly static with a decrease of 15.

Table 16: Annual Average Employment Statistics 1990-2001

Year	Total Labor Force	Number Employed	Number Unemployed	Unemployment Rate (%)
2001	2,679	2,573	106	4.0
2000	2,614	2,512	102	3.9
1999	2,629	2,519	110	4.2
1998	2,558	2,431	127	5.0
1997	2,524	2,378	146	5.8
1996	2,458	2,325	133	5.4
1995	2,442	2,280	162	6.6
1994	2,362	2,182	180	7.6
1993	2,338	2,145	193	8.3
1992	2,291	2,077	214	9.3
1991	2,306	2,089	217	9.4
1990	2,330	2,199	131	5.6

The labor force is concentrated in tourist, service related jobs and construction, and most work in Eastham or within a ten (10) mile radius of Town, with the majority working in Eastham and Orleans; others work in Barnstable and off-Cape. This pattern of employment by “place of work” and “place of residence” illustrates the strong socio-economic dimension of regionalism in the County. Additionally, self-employment accounts for fourteen and one-half (14.5) percent of the Eastham workforce.

Today, the largest employer in Eastham is local government. There are approximately sixty (60) full-time Town employees and twenty-five (25) part-timers. Other major year-round employers in Town include the Nauset Regional Public Schools, the Cape Cod National Seashore and the Sheraton Ocean Park Inn.

Business in Eastham

Eastham's economic environment is dominated by the revenues it generates as a national and international seasonal vacation destination. Eastham is the gateway to the Cape Cod National Seashore and therefore is a popular tourist destination. The service, trade and construction industries, which all benefit from and rely on this seasonal tourist base, make up almost eighty-four (84) percent of all business in Town. This also confirms the strong self-employment sector of Eastham economy. A glance at the business licenses issued in 2002, confirms this business mix.

Table 17: Business Licenses Issued By Eastham

License Type	Number of Licenses
Antiques	5
Automotive (Sales and Repair)	5
Gas Stations	5
Restaurants	17
Bed & Breakfasts	8
Cottages & Inns	30
Campground	1
Carpentry	12
Construction	27
Beauty Shops/Barbers	5
Attorney	1
Computer Services	6
Forge	1
Motels	9
Moving/Storage	1
Shellfish Operators	3
Landscapers	9
Retail Shops	48
Real Estate	14
Personal Professional-Massage Therapy-fitness	9
Limousine Service	6
General Stores & Package Stores	5
Manufacturing Company	1
Fitness Center	1
Professional/Security, Plumbers, Electricians, Painters, Pottery	34
Nursery	1
Trucking Company	2
Veterinarians	2
Recreation Facility	1
Misc./Storage-party/home care	27
TOTAL:	296

Source: Town of Eastham, Town Clerk's Office, 2002

Table 18: Municipal Property Tax Rates in Selected Barnstable County Towns
Fiscal Years 1995 Through 2002

Town	1995	1996	1997	1998	1999	2000	2001	Percent Increase	2002
								1995-2001	
Brewster	\$12.98	\$12.97	\$13.10	\$12.84	\$13.20	\$11.92	\$11.08	-15%	\$10.69
Eastham	\$10.60	\$11.05	\$11.57	\$11.64	\$11.65	\$11.71	\$8.4	-21%	\$9.20
Harwich	\$11.20	\$11.64	\$11.80	\$11.70	\$11.70	\$11.70	\$9.66	-14%	\$8.90
Orleans	\$9.72	\$9.85	\$9.81	\$9.55	\$8.44	\$8.46	\$6.54	-33%	\$5.36
Provincetown	\$11.65	\$11.98	\$11.40	\$11.58	\$9.90	\$8.55	\$7.42	-36%	NA
Truro	\$6.76	\$6.92	\$7.20	\$7.78	\$7.60	\$7.40	\$7.96	+18%	NA
Wellfleet	\$8.30	\$8.33	\$8.67	\$9.14	\$9.14	\$9.43	\$6.82	-18%	\$6.93
AVERAGE	\$10.17	\$10.39	\$10.51	\$10.60	\$10.23	\$9.88	\$8.27	-19%	\$8.22

Source: Massachusetts Department of Revenue - Division of Local Services - Municipal Data Bank - Local Aid Section

Eastham's tax rate from 1995 to 2002 remained above the average with other comparable Barnstable County towns, but is significantly lower than the State and County averages.

The average tax bill for single-family homes in Eastham has remained below the State and Barnstable county median, as shown in Table 19.

Table 19: Average Tax Bills of Single-Family Homes in Selected Barnstable County Towns-Fiscal Years 1996 Through 2002

TOWN	<u>1996</u>		<u>1998</u>		<u>2000</u>		<u>2001</u>		<u>2002</u>	
	Rank	Avg Bill	Rank	Avg Bill	Rank	Avg Bill	Rank	Avg Bill	Rank	Avg Bill
Brewster	175	\$1,993	197	\$2,074	209	\$2,071	214	\$2,155	229	\$2,233
Eastham	258	\$1,579	261	\$1,694	276	\$1,720	297	\$1,681	283	\$1,853
Harwich	194	\$1,829	207	\$1,933	228	\$1,960	204	\$2,210	184	\$2,495
Orleans	120	\$2,199	162	\$2,180	182	\$2,250	161	\$2,478	167	\$2,583
Provincetown	161	\$2,013	149	\$2,223	135	\$2,490	146	\$2,544	NA	NA
Truro	244	\$1,619	231	\$1,816	202	\$2,128	190	\$2,295	NA	NA
Wellfleet	244	\$1,552	248	\$1,749	251	\$1,837	249	\$1,948	240	\$2,166
State Median		\$2,121		\$2,121		\$2,297		\$2,418		
B.C. Median		\$1,983		\$1,983		\$2,128		\$2,210		
Median (Sub-group)	194	\$1,829	207	\$1,933	209	\$2,071	204	\$2,210		

NA=Not available

Source: Massachusetts Department of Revenue - Div. of local Services - Municipal Data Bank - Local Aid Section

Eastham's average tax bill for the period 1996-2002 is slightly above the bottom quartile. This ranking speaks well of the cost to the average property owner of services in Eastham.

The equalized valuation of all property in Eastham increased by 1.21 times from 1994 to 2000, or about par with the Barnstable County average for that same period, as shown on Table 20.

Table 20: Municipal Equalized Valuations (\$000) in Selected Barnstable County Towns 1994 - 2000

Municipality	1994	1996	1998	2000	% Increase 1994 - 2000
Brewster	1,084,523	1,129,522	1,199,121	1,427,451	32%
Eastham	858,341	862,681	879,450	1,036,048	21%
Harwich	1,594,173	1,626,185	1,774,872	2,105,331	32%
Orleans	1,153,973	1,186,891	1,311,649	1,569,517	36%
Provincetown	577,300	588,631	718,181	986,316	71%
Truro	583,948	600,003	646,740	780,283	34%
Wellfleet	682,535	703,867	765,330	870,896	28%
County	25,107,549	25,286,490	27,342,222	32,139,914	28%

Source: Massachusetts Department of Revenue - Division of Local Services - Municipal Data Bank - Local Aid Section

There are one hundred and twenty-seven (127) tax-exempt properties encompassing over six hundred and forty three (643+) acres in Eastham. These properties include State, Town and non-profit lands. In addition, the Cape Cod National Seashore property covers approximately three thousand (3,000) acres that are tax exempt. Together, this represents a substantial thirty-six hundred and forty-three (3,643+) acres, or forty (40) percent of the land in Eastham, which is non-taxable and generate little in terms of payments in lieu of.

Analysis

The Town of Eastham has no defined growth center. Route 6, with its existing sprawl of commercial and residential development, has replaced the small villages that existed half a century ago. Orleans, as the regional growth center for the lower Cape, suffices as the commercial center for Eastham's residents.

Infrastructure limitations such as roadway capacity and a lack of town water may limit the ability of the Town to support significantly more development. Constraints and the Town's location on the Lower Cape, Eastham will continue to rely on residential property for the bulk of its tax base.

In order to increase diversified business activity meeting the needs of the community and consistent with the overall desire to maintain the natural environment, "clean industry" may be encouraged on selected sites with available infrastructure.

The increase in telecommuting Cape-wide indicates that telecommuting technologies, including the Internet, have matured to the point that they are available to potentially large numbers of workers. Telecommuting may allow Eastham residents, who have traditionally been constrained by their geographic isolation, to do business in a global marketplace. However, delays in providing Outer Cape residents and businesses with new telecommunications services, ranging from ISDN lines to the value-added services offered by the latest digital technology, limits their potential for Eastham residents. The town continues to push the cable and telephone companies to provide low cost universal high-speed Internet service to residences and businesses in Eastham. Compliance has been slow.

Implementation

Regional/County Actions:

Coordination

- A. The Cape Cod Commission's Economic Development program and the Cape Cod Economic Development Council (CCEDC) will coordinate their policies and activities to create a synergistic effort at improving the region's economy while addressing its unique challenges.
- B. The Commission will work with local permitting agencies to coordinate and streamline the development review process to minimize delays.

Targeted Sectors

- C. The Commission and Economic Development Council will work with local governments and business organizations to create strategies for developing the following economic sectors, that have potential to expand Cape markets and create more year-round jobs; marine science, environmental research and technology, biotechnology, software, telecommunications, "clean" manufacturing, financial services, tourism, retirement, and health care and elder services. The CCEDC will give special attention to encouraging education as an industry.

Planning, Marketing, and Information Dissemination

- D. The Commission will work with towns and local industrial park authorities to resolve environmental and planning issues in order to expedite the development and marketing of these parks. This could include industrial pre-screening, development agreements, or District of Critical Concern designations to streamline the development review process. The Commission will maintain information concerning available developable property in industrial parks and other industrially zoned areas.
- E. The Commission will support cultural and heritage activities such as the Heritage Discovery Network and Marine Heritage Program.

- F. The Commission will continue to work with local chambers of commerce, tourist attractions, historians, environmentalists, public relations experts, and other knowledgeable individuals to strengthen the heritage tourism initiative and to publicize the environmental, historical, and cultural attractions of Cape Cod.
- G. The Economic Development Council and the Commission will work with interested parties to promote Cape Cod as a retirement community.
- H. The Commission will research and disseminate information concerning the telecommunications infrastructure and policy needs in order to make Cape Cod a competitive place for businesses and individuals.
- I. The Commission will research and disseminate information concerning the economy and demographics of Cape Cod. These research activities will include interpreting data from the US Census, state and local agencies, private organizations, and businesses. Such materials will be made available to towns, businesspersons, the media, and interested individuals through periodic publications, such as “Cape Trends,” and responses to individual inquiries.

Education and Technical Assistance

- J. The Commission will work with towns, county government, businesses, and nonprofit organizations as a technical resource for economic development planning, including through Local Comprehensive Plans (LCP).
- K. The Commission and Cape Cod Economic Development Council will sponsor conferences and workshops on the Cape Cod economy and strategies for improving it.
- L. The Economic Development Council will support the efforts of the business sector and educational and training institutions to prepare local workers for and refer them to new job opportunities with special attention to disabled, elderly, minorities, and unemployed and under-employed persons. The Cape Cod Economic Development Council will pursue initiatives to develop a technologically literate workforce.
- M. The Commission and Cape Cod Economic Development Council will support the development of expanded higher education, specifically a four-year college/graduate school, and vocational programs on Cape Cod in order to enhance opportunities and upgrade job skills.
- N. The Commission and the Cape Cod Economic Development Council will encourage the recruitment and training of underemployed residents who desire to work, such as retired persons, so as to reduce off-Cape recruitment.

Recommended Town Actions

- A. In preparing the Local Comprehensive Plans (LCP), meet with businesses and business organizations to ascertain economic development needs in the community.
- B. Create regulations that provide incentives for businesses to locate in compact mixed-use centers.
- C. Work with the private sector including the Chamber of Commerce to identify and develop entrepreneurial and business activities compatible with towns' existing strengths and resources.
- D. Continue to capitalize on the economy generated by tourism, to stimulate additional year-round employment, and to maintain the natural environment that attracts most people to Eastham, the following recommendations are suggested:
- E. Prepare and take steps to deal with traffic issues at the Brackett Road/Route 6 area. Measures to promote and facilitate use of public transportation, additional landscaping, parking, lighting, appropriate signage and other amenities to help maintain and stimulate the economic viability of these areas, will be encouraged.
- F. Promote with particular attention to increasing "off-season" activity, including Windmill Weekend and the fall foliage period.
- G. Through the Planning Board should develop design standards for commercial areas, including undergrounding of utilities, to maintain the semi-rural characteristics of Eastham and enhance the environment. The Town may draw upon the Cape Cod Commission's Designing the Future to Honor the Past as a guide.
- H. Actively support efforts to obtain frequent, affordable, year-round express bus service along Route 6 to enable Eastham residents without access to a car to work in other towns on Cape Cod and off-Cape.
- I. Augment performance standards for business and industrial areas to include such items as lighting, surface treatment, erosion, noise, water and air pollution. Home occupations should have their own standards, which maintain the appearance of residential areas yet allow compatible business activities.
- J. Encourage the use of the home as a business (home occupation), such as telecommuting and direct mail. The Town should participate in regional efforts to underground electrical utilities, upgrade services more rapidly, and insist on higher standards of reliability from electrical utilities. These improvements would allow for the uninterrupted delivery of electrical power to facilitate the potential for telecommuting and distance education through the Internet.

- K. Request the Eastham Chamber of Commerce to act as the responsible agency to represent Eastham before the Cape Cod Economic Development Council for the purpose of identifying a small, "clean" industrial firm that would consider locating in Eastham.
 - L. With the Chamber of Commerce, cooperate in periodic surveys of local businesses to learn about business issues and impediments to economic development.
 - M. Develop a pedestrian walkway system in local business centers to encourage small-scale boutique commercial development.
 - N. Develop a feeder bicycle path system to support bicycle commuting to shop, work sites and the post office.
- See "Economic Development" in Implementation section.

COMMUNITY FACILITIES - TRANSPORTATION

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for transportation. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan in so far as the Town has local control of the transportation facilities enumerated.

- 4.1.1 Goal:** To foster a transportation system in Eastham for present and future year-round needs which is safe, convenient, accessible, economical and consistent with the Town's historic, scenic and natural resources.

Minimum Performance Standards

- 4.1.1.1 Where development or redevelopment takes place, it shall not degrade the future no-build levels of service (LOS) of surrounding roads and intersections below LOS C based on June through September peak hour traffic volumes. Levels of service shall be measured using performance indicators such as delay at intersections and volume to capacity ratio as defined in the Highway Capacity Manual. Where existing levels of service are below these specified levels, development and redevelopment shall maintain or improve performance indicators.
- 4.1.1.2 Developments of Regional Impact shall mitigate any traffic impacts that are created by such developments. The mitigation strategies shall include both structural and nonstructural improvements, with special emphasis on alternatives to private automobile transportation. Necessary improvements shall occur concurrently with any development, or a contribution of funds toward the necessary improvements shall be provided. All traffic mitigation measures on state highways must be in accordance with Massachusetts Highway Department access requirements, standards and policies. At a minimum, projects shall be evaluated using MEPA's Guidelines for Traffic Impact Assessment. In the case of a Development of Regional Impact, the Planning Board through its Site Plan Review process shall make recommendations concerning the mitigation of any traffic impacts as the Cape Cod Commission is considering for local approval and/or under review the specific development.
- 4.1.1.3 Where development and/or redevelopment takes place, permissible forms of mitigation are as follows:
- Alternatives to automobiles and reduction in peak hour site traffic including providing shuttle bus services, car or vanpooling and promoting pedestrian and bicycle accessibility.
 - Non-structural mitigation such as changes to pavement markings, signage, turn restrictions, limited removal of obstructions to provide safe sight distances and curb cut consolidations.

- Structural mitigation such as new signalization and intersection widening shall be permissible only under the following conditions:
 - Other methods (non-structural, access management or demand management) are not adequate to mitigate impacts,
 - The structural mitigation is necessary to accommodate June and September travel demands. Only non-structural mitigation is permissible to accommodate the peak season, July and August, travel demands,
 - There will not be degradation in natural, scenic and historic resources,
 - The structural mitigation will not adversely impact local roads.
- 4.1.1.4 Where development or redevelopment takes place, the Planning Board shall ensure that the developer provides adequate and appropriately designed on-site parking. In addition, the Planning Board shall encourage adjacent commercial uses to share parking and access points so as to minimize curb cuts and pavement coverage. Where appropriate, adequate off-site parking may be substituted for on-site parking.
- 4.1.1.5 Proposed developments shall conduct traffic impact analyses of the peak hour of the traffic generator or the peak hour of the adjacent side streets, whichever is worse. The analysis shall also include and evaluation of the summer peak hour condition.
- 4.1.1.6 Where appropriate, mixed-use development shall be encouraged in order to reduce automobile use between commercial and residential areas.

Other Development Review Policies

- 4.1.1.7 Appropriate plantings should be encouraged along roads to improve their appearance and provide screening, while not obstructing driver visibility, particularly at intersections.
- 4.1.1.8 Primary access points from large scale, high traffic-generating development should not be established where traffic is required to travel through areas with significantly lower densities or intensities.
- 4.1.1.9 Roadways and sidewalks should be designed to accommodate access for the disabled.
- 4.1.1.10 Replacement, relocation or installation of utility poles shall not be allowed if such replacement, relocation or installation would interfere with automobile, pedestrian, or bicycle safety based on site distances, useable sidewalk width or clearance from the traveled road surface.

- 4.1.1.11 Signage and lighting and other necessary appurtenances shall not interfere with safe site distances or create distractions for drivers.

4.1.2 Goal: To develop alternate modes of transportation so as to reduce dependence on private automobiles.

Minimum Performance Standards

- 4.1.2.1 Developments of Regional Impact shall make provision for alternate transportation modes to offset at least 20% of their projected traffic volumes. Acceptable alternatives include but are not limited to carpool programs, shuttle bus service and related programs to ensure a 20% reduction in vehicle trips to and from the site. In lieu of providing these services in-kind, the developer may make a contribution to the Cape Cod Regional Transit Authority or a private transit company approved by the Commission in order to provide public transportation. When the Cape Cod Commission is considering a Development of Regional Impact, the Planning Board shall make recommendations for alternate transportation modes to offset at least twenty (20) percent of the projected traffic volumes.
- 4.1.2.2 Development or redevelopment shall incorporate provisions for bicyclists and pedestrians such as bicycle racks, secure storage areas, connections to bicycle paths and other pedestrian connections.
- 4.1.2.3 Roadway construction and upgrades shall include provisions for bikeways, where appropriate. Roadway safety features such as adequate lane and shoulder widths, smooth pavements and bicycle responsive traffic signals, shall be included. When roadways and sidewalks are being constructed or upgraded, active consideration should be given to opportunities for removing utility poles and undergrounding existing utility lines.

Other Development Review Policies

- 4.1.2.4 Bicycling and walking should be encouraged as an alternative to automobile trips. Where appropriate, historic footpaths should be maintained and safe bicycle links to regional bicycle networks should be established. Where feasible, bikeways and footpaths between existing subdivisions are encouraged in order to open up through-linked bicycling and walking routes away from major roads.
- 4.1.2.5 Existing transportation rights-of-way should be retained for future transportation uses.
- 4.1.2.6 Where appropriate, developments should provide bus turnouts, taxi stands, and related facilities.

- 4.1.2.7 Opportunities for other forms of public transportation including bus, rail, ferry and shuttle vans should be expanded in order to serve visitors and residents.

Existing Conditions

Transportation is one of the most difficult issues facing Cape Cod and communities like Eastham. Providing mobility in the face of funding limitations is difficult enough. Combined with the competing issues of community character, impacts to natural resources, the seasonal nature of the traffic problem and an increasing public transit dependent population before transportation issues become critical.

Eastham's existing transportation system consists mainly of roads, as opposed to other means of transportation. Today, approximately 95% of all trips in Eastham are via the private automobile. Bus rider ship, walking and bicycling together total only 5% of trips. In part, this reflects the fact that existing year-round public transportation services are limited and have been neither encouraged nor studied by local government. Similarly, the appeal of bicycle transportation is constrained by the absence of east-west bike paths outside the National Seashore, and the lack of bicycle racks and secure storage bins at commercial centers in both Eastham and Orleans.

The annual expenditure on maintenance and repair of Eastham's 61 miles of town owned roads as well as the state owned portion of the transportation system (Route 6) is \$150,000 per year. Current capacity throughout the town owned road network meets all but the summer travel demands. Peak travel demand on Route 6 during the summer-results in severe congestion in South Eastham leading to the Rotary as well as congestion near the signalized intersections in town. Traffic at intersections at Brackett Road and occasionally at Samoset operates at reduced levels of efficiency.

Although the capacity constraints occur primarily during the summer, safety problems occur on a year-round basis. Based on the latest available accident records, Route 6 in Eastham has a higher accident rate than any other section of Route 6 on Cape Cod. It appears that conflicts between through traffic and local turning traffic along the four-lane highway are largely responsible. Speed and inattentive drivers contribute to extensive property damage and loss of life in these accidents. As a result of the number and severity of vehicle accidents, police surveillance has been increased resulting in a substantial reduction in all types of accidents.

The annual average daily traffic (AADT) total volumes for Route 6 in 2001 ranged between 19,459 at the Eastham/Wellfleet town line to 26,864 just south of the Cape Cod National Seashore Visitor's Center. For further traffic count data for locations sampled along Route 6 and significant local roads, please refer to the Cape Cod Commission's annual traffic counting reports containing ten year periods of counting information.

This plan strives to create a vision for an integrated transportation system. It recognizes the importance of Route 6 to the town and regional road system; the need to make Route 6 safe and efficient; and that maintaining/preserving character and environmental resources are important priorities when considering widening roads and intersections. It identifies the preference for adjusting current development potential through open space acquisition, land use changes, and

the provision for public transportation stops at appropriate residential and commercial locations. It also recognizes that coordination with our neighboring communities; the region and the State are necessary to address our transportation issues. This could be accomplished by active participation on the Cape Cod Regional Transit Authority, involvement and input with the Cape Cod Transit Task Force, and working closely with the National Park Service.

Eastham is primarily a residential community with 33% of the current developed land devoted to residential uses. The largest landowner in the Town is the National Seashore, which comprises 33% of the Town (See Land Use Section). Furthermore, nearly 60% of the homes are used seasonally. Eastham's existing transportation system consists of roads, limited bus service and bicycle/pedestrian travel. Eastham residents, like those in most other Cape communities, rely primarily on the automobile for transportation. The Cape Cod Rail Trail, a regional bicycle path, traverses the length of Eastham. A sidewalk runs along the West Side of Route 6 in Eastham. In addition, there are recreational bicycle paths and walking trails within the Cape Cod National Seashore. There are several bus stops located in Eastham that are not user friendly, nor is signage or shelter provided.

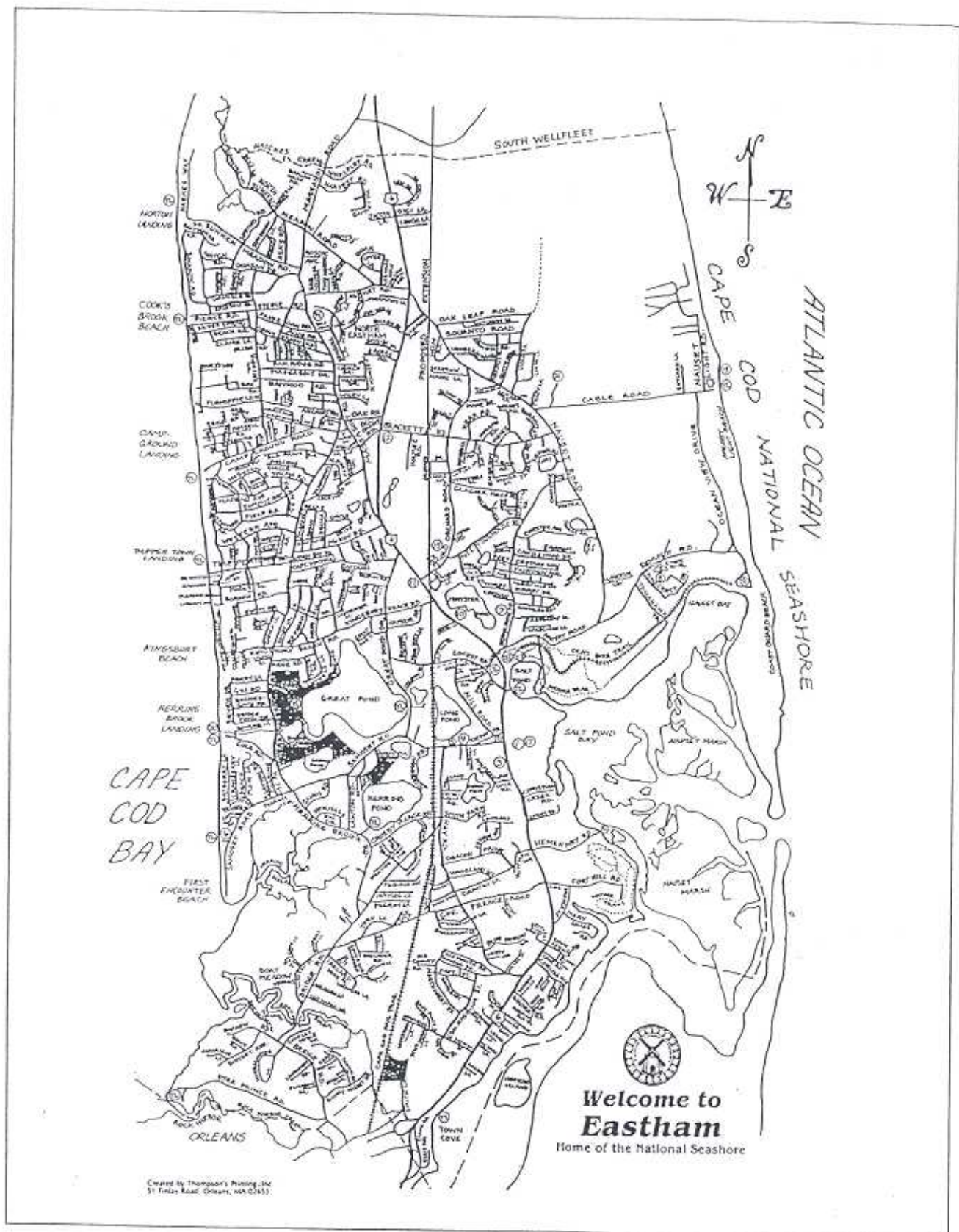
Roadways

A total of approximately 6 miles of State road (U.S. Route 6) and 61 miles of accepted Town roads exist in Eastham. [See Map 10 - Streets on following page.] Route 6 is classified as a Principal Arterial by the Cape Cod Commission, and begins on Cape Cod at the Bourne/Wareham town line and ends in Provincetown, the northern most point on the Cape. This State Highway is a 4 lane undivided roadway in Eastham. It bisects the Town (east/west) running 6 miles in length from the rotary at the Orleans border to the south, to the Wellfleet town line in the North. The speed limit along Route 6 is 40 miles per hour. The Eastham/Orleans Rotary is posted at 25 miles per hour.

Land along Route 6 in Eastham is used for residential development, the Town municipal complex at the intersection of Samoset Road and several areas of high and low-use commercial activity. Millions of travelers have and will utilize this route yearly to access the Cape Cod National Seashore. Route 6 is considered to be one of the heaviest traveled roadways (over 30,000 vehicles per average summer day on Route 6 in South Eastham) on the Cape and in Eastham serves the dual role of carrying through traffic to and from points further out on the Cape, and functioning as the Town's "Main Street". Local pedestrian and vehicular traffic competes with through (high-speed) traffic. Conflicts of the residential traffic with through traffic result from slower stop-and-go traffic caused by frequent crossings, left-hand turns, and access to and from driveways along Route 6.

During peak hours in the summer, congestion occurs along Route 6 between the Salt Pond Road traffic signals and the Orleans rotary. A major volume travels to the National Seashore and to

Map 7: Eastham Street Map



Provincetown for whale watching and other activities. Current winter conditions along this same segment of Route 6 are considered not congested. Projections for future “off season” volume are for high to very high congestion.

Paralleling Route 6 to the west, Bridge Road, Herring Brook Road and Massasoit Road form a secondary link between the Towns of Orleans and Wellfleet, and link residential neighborhoods. These roads are primarily residential in nature. Nauset Road to the east of Route 6 links the Salt Pond area of Town to North Eastham. Primarily residential in nature, Nauset Road also carries traffic associated with the Cape Cod National Seashore and the Nauset Regional High School. These roads are generally not congested anytime during the year.

Samoset Road which runs from Route 6 at the Town Hall west to First Encounter Beach and Brackett Road from Nauset Road westerly to Route 6. These roads are generally not congested during the late fall and winter months. See Maps 11 and 12, also see Map 8 – Functional Classification Map on following page.

The condition of existing local streets differs widely. Some have adequate pavement and shoulders; others are not well paved and are of irregular widths. The Town has recently completed a pavement management plan and initiated improvements.

There are no intersections with a significant number of major accidents on Route 6 north of Brackett Road to the Wellfleet town line. See also Map 13, Traffic Problem Area Map on next page. Locations where there are a significant number of major accidents [one thousand dollars (\$1,000) and/or personal injury] along Route 6 are listed below, along with the number of accidents and the year in which they occurred from 1991 to date.

Table 21: Major Traffic Accidents along Route 6

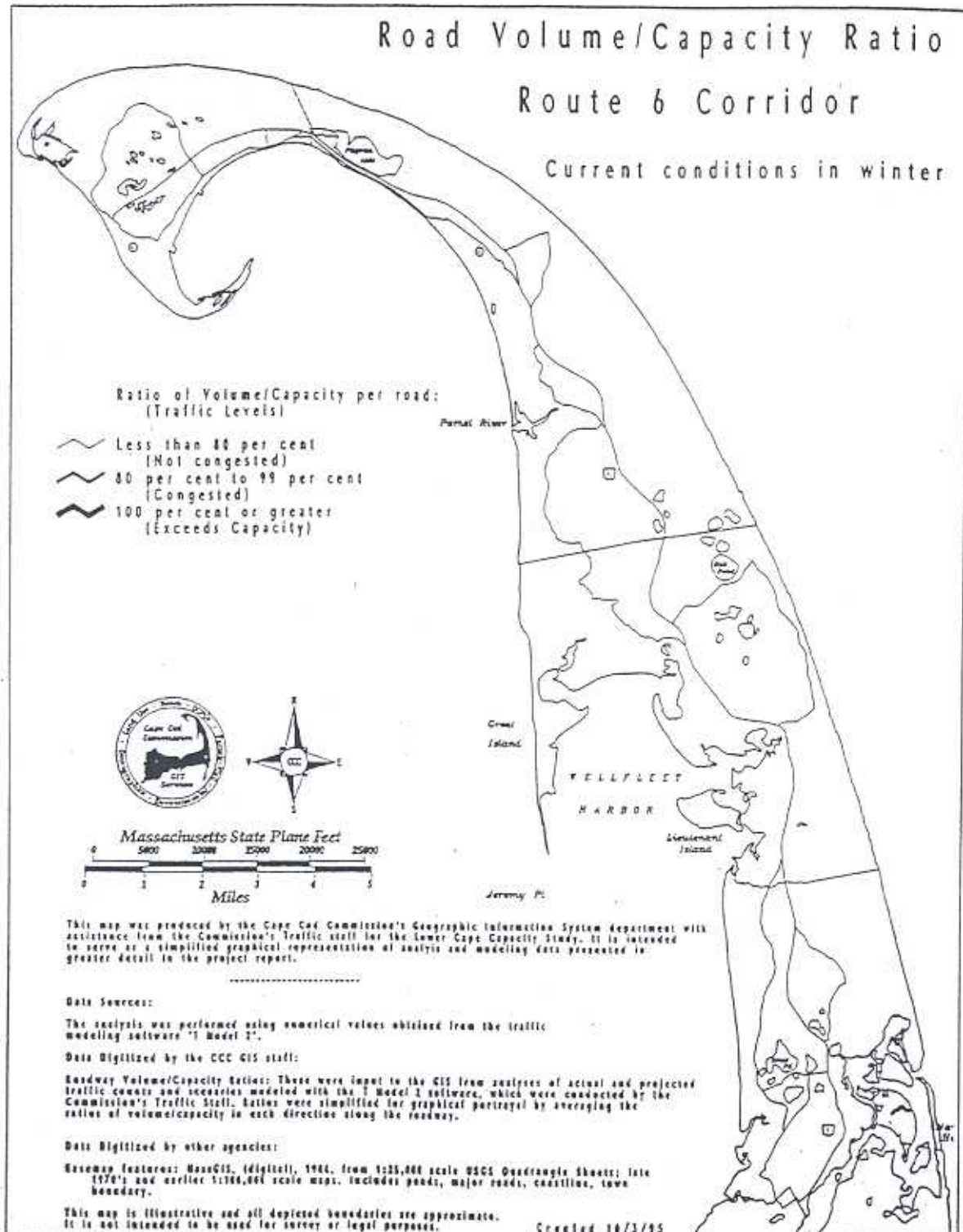
Year	Orleans Rotary	Governor Prence Rd.	Samoset Road *	Nauset and Locust Roads *	Massasoit Road	Main St. Mercantile	Bracket Road	Misc.
1991	6	4	20	6	6	5	8	
1992	6	10	11	6	2	4	6	
1993	7	6	13	5	7	7	5	
1994 **	8	4	7	7	3	3	16	
1999	2	2	12	5	2	8	7	13
2000	5	1	7	1	4	4	9	8
2001	2	4	13	2	3	11	2	11

* Location with pedestrian crossings

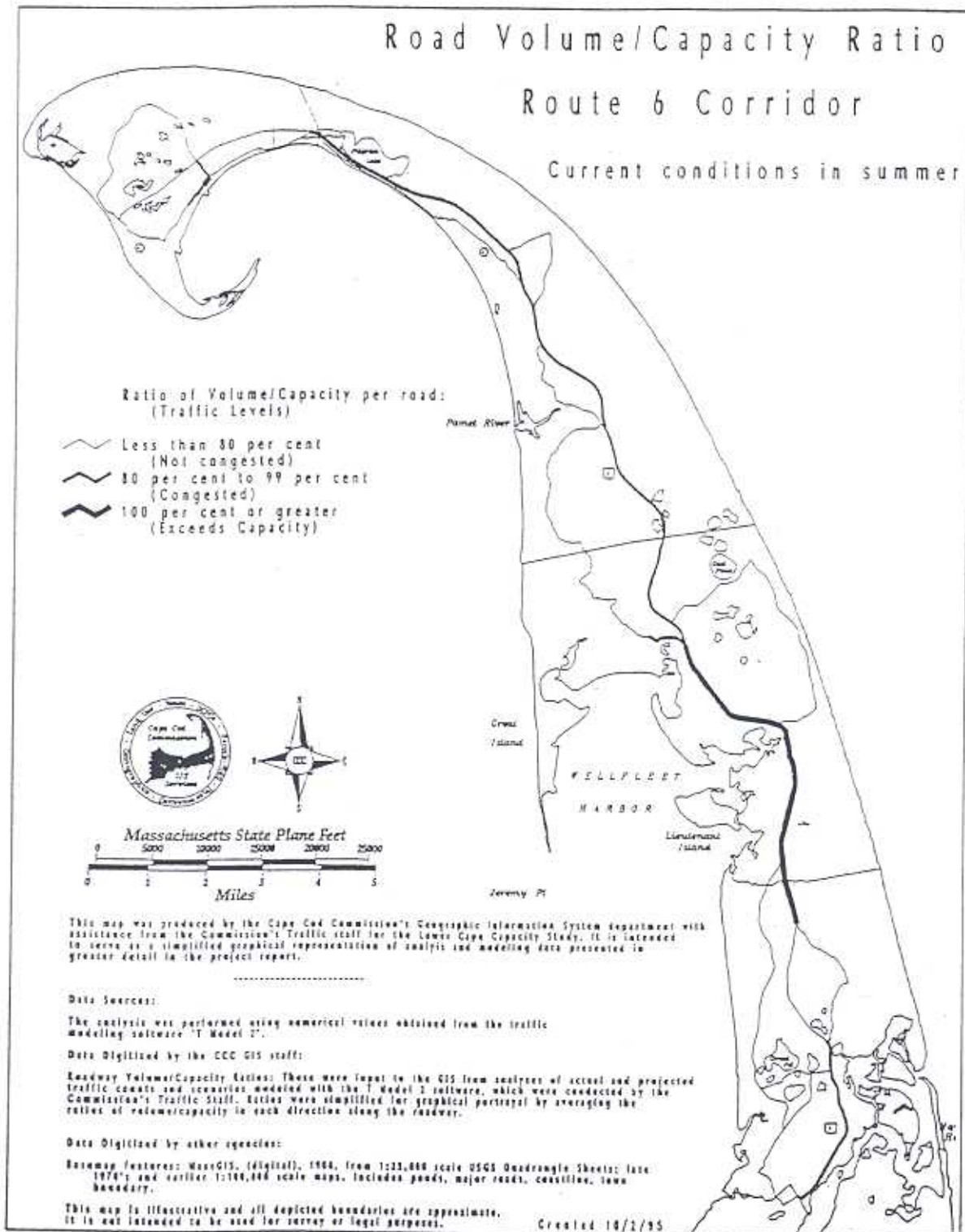
** As of December 6, 1994

Source: Eastham Police Department

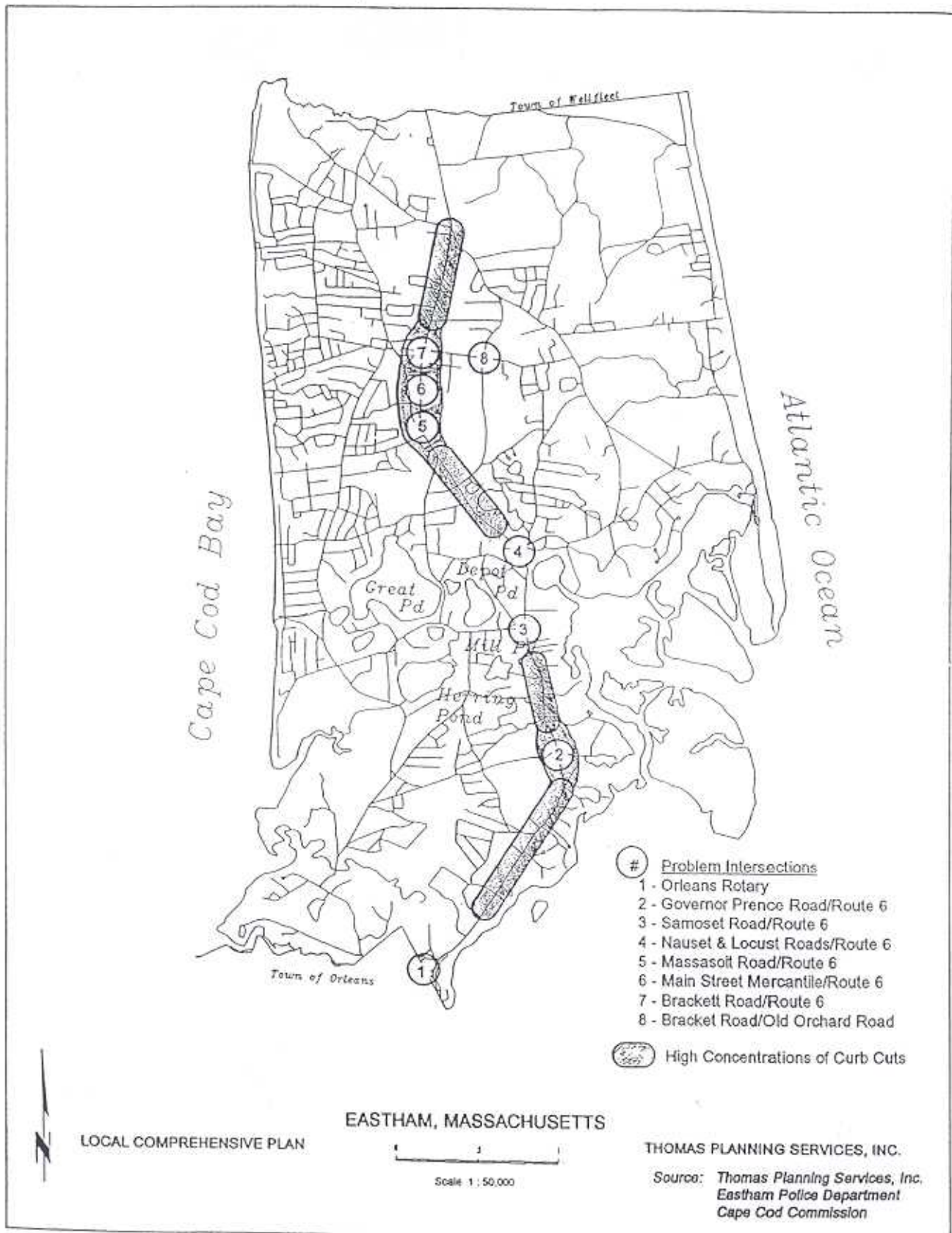
Map 9: Road Volume/Capacity Ratio – Route 6 - Current Conditions in Winter



Map 10: Road Volume/Capacity Ratio – Route 6 - Current Conditions in Summer



Map 11: Traffic Problem Area Map



In addition to Route 6, the intersection of Brackett Road and Old Orchard Road, has experienced a higher than normal number of traffic accidents. Roadside hazards include utility poles along Route 6 and other town roads. They are a potential traffic hazard for drivers inadvertently traveling off the roadway and, when damaged, may result in an interruption in power.

Bicycle and Pedestrian

The former New York, New Haven & Hartford Railroad was sold to the Commonwealth, which subsequently cleared the track to pave a bicycle and pedestrian trail known as the Cape Cod Rail Trail. This former railroad bed runs the length of Eastham, approximately six (6) miles, crossing under Route 6 near Old Orchard Road. The Commonwealth maintains this facility, although there are no public parking facilities in Eastham along this path. In addition, the Cape Cod National Seashore maintains a bicycle trail from the Salt Pond Visitors Center to Coast Guard Beach, both of which provide parking facilities. The Cape Cod National Seashore bicycle path and the Cape Cod Rail Trail are connected via a signed bicycle route along Locust Road.

Provisions for bicyclists and pedestrians are abundant throughout the lands of the Cape Cod National Seashore. These serve transportation (access to beaches) as well as recreational uses. However, information for users is extremely limited.

Route 6, which as noted earlier is the “Main Street” in Eastham, bisects the Town and has sidewalks on the western side, along its entire length in the Town. Signal controlled pedestrian crossings exist at the intersections of Samoset Road and Salt Pond Road with Route 6. Salt Pond Road provides access to the Seashore's Salt Pond Visitor Center. These receive low to moderate pedestrian use. Upgrades to add or improve pedestrian crossings are planned at Salt Pond/Nauset Road and Brackett Road for pedestrian phases. Year round maintenance of sidewalks is necessary to improve and promote pedestrian travel including: plowing sidewalks of snow in winter; brushing, mowing and trimming in summer; and annual sweeping. No other signalized intersections along Route 6 provide special signal phasing for pedestrians, although crosswalks are provided on two approaches at Brackett Road.

Public Transportation

Public transportation to and from Eastham is limited - lacks information about scheduling, coordination, etc. The Plymouth & Brockton Street Railway Company (P & B) makes a regular stop at and across from the Town Hall on Route 6, and provides service from Hyannis to Provincetown and points in between. Additional stops are provided, as needed, requiring the passenger to hail the bus or request a drop-off along Route 6. During the winter, P&B operate two buses between Provincetown and Hyannis, and during the summer operate six buses. Travel from Eastham to Hyannis is 45 minutes and to downtown Boston is 2 hours and 40 minutes via the P&B. Some Eastham residents drive to the Barnstable commuter lot at exit 6 and Route 6, park their cars and ride the P&B hourly express bus to downtown Boston or to Logan Airport.

The Cape Cod Transit Authority runs an on-call transportation service called the B-Bus. Reservations must be made at least a day in advance for this service which provides passengers a ride from their home for medical appointments, shopping trips, as well as medical trips to Boston on weekdays. The Eastham Council on Aging provides a volunteer-run van service for those residents over sixty who require assistance in transportation to medical appointments and shopping areas. The Council also provides transportation to special programs, events and field trips for seniors. In addition, the Nauset Region Fish provides volunteer passenger car service for medical appointments and errands to residents in the Lower Cape region. Taxi service is available from Nauset Taxi in Orleans but requires advance scheduling and a fee. Free summer bus shuttles are operated by the National Seashore between the Little Creek Parking area and Coast Guard Beach. However, all cars are charged a fee to park except those with Eastham parking stickers.

Much work is now being done by the Cape Cod Transit Task Force to address specific Lower Cape Transportation needs, e.g., a mini transit center in Orleans; shuttle service from Orleans to Provincetown; and more marketing of public transportation for year-round use and for summer visitors. Eastham should be actively involved in all these and future efforts.

The closest Park and Ride lot available to Eastham residents and visitors is located in Harwich at Exit 10 off of the Mid Cape Highway (Route 6). This lot is intended for use by travelers heading to similar destinations, providing parking area to promote carpooling.

Fixed route bus service in the vicinity of Eastham includes the H₂O Breeze. The H₂O Breeze departs from the Orleans Stop and Shop (just south of the Eastham Rotary) and travels along Route 28 terminating in Hyannis. Stops are made in Orleans, Chatham, Harwich, Dennis, Yarmouth and Hyannis. This bus service runs from late June to Labor Day weekend in September.

Parking

Town controlled public parking facilities exist at Eastham's Town Beaches and Landings, the Public Library, the Town Hall, Rock Harbor, and the Eastham Elementary School. In addition, there is parking at the Nauset Regional High School, and the Cape Cod National Seashore's Salt Pond Visitors Center, Nauset Light Beach, Doane Rock Parking Area, Little Creek Parking Area and Coast Guard Beach. Parking for commercial facilities both large and small exist primarily along Route 6 on the premises of the businesses. There is a need for additional study of future parking needs, including secure and convenient bicycle parking, parking for possible new beach use; shuttle parking facilities; parking for cars to drop-off/pick-up shuttle riders.

A Beach Committee has been organized and pursuing a parking lot for approximately 300 vehicles. This beach area is to be located mid-way between the existing Nauset Light and Coast Guard Beaches. This will be primarily for Eastham residents – 250 spaces and 50 spaces for non-residents. This comes at a time when the National Park Service is curtailing both parking accommodations and limited number of the public on beaches.

This proposed new beach parking lot would result in direct vehicle trip impacts on Doane Road, Ocean View Drive and Cable Road. Increased vehicle trips would also be experienced on roads such as Brackett Road, Nauset Road and Route 6. The results of a comprehensive traffic impact analysis and appropriate mitigation measures to offset identified impacts would need to be considered as part of the planning and approval process for this proposed project. Potential mitigation measures could include, but not limited to, incorporating design measures to encourage alternatives to automobiles such as safe pedestrian access, adequate bicycle provisions and/or convenient shuttles to reduce new vehicle trips.

To summarize, the existing conflicts in transportation with present growth and land use include:

- Portions of Route 6 are congested during peak hours in the summer months. Traffic demands on Route 6 result from the amount of present land development served by Route 6 and growth in summer population, tourists and visitors within the sub-region, and the lack of sufficient, accessible, consistent public parking.
- Over capacity conditions currently exist along Route 6 for travel to and from other Outer Cape towns, resulting in long delays during peak hours in the summer.
- Currently, the number of access locations and the spacing of access to private developments along Route 6 are inconsistent with the roadway function as a major road. Traffic exiting private development at uncontrolled intersections experience long delays during peak hours all year around. Currently, many developments along Route 6 have no alternatives to Route 6 for locating access to the property.
- Currently there are insufficient alternatives to the automobile for travel within the Town and for trips made to and from the Outer Cape area.

Analysis of Future Conditions

The Outer Cape Capacity Study conducted in 1995, and more recent studies which predict increased traffic in the “off season”, the Cape Cod Commission characterized future summer peak hour travel demands with several land use scenarios and with the existing transportation system. The three future land use scenarios developed include:

- Future Land Use in Year 2020 with Current Zoning
- Build-Out under Current Zoning, likely to occur after Year 2020
- Build-Out with a Conversion of Two-Thirds of Seasonal Housing to Year-round

For each of these land use scenarios, no changes in the existing roadway system, no changes in the current use of alternative modes, and no increase in the amount of tourists visiting area attractions were assumed in the study.

Peak Travel Demands with Future Land Use in Year 2020 with Current Zoning

A forecast of future year 2020 traffic levels was developed which reflect anticipated increases in development and growth in background traffic. Traffic conditions were analyzed which assumed no increase in roadway capacity. The results of this analysis indicate that the entire length of Route 6 in Eastham is projected to operate at over capacity conditions during the summer. The analysis also indicates that over capacity conditions would occur on Bridge Road, which parallels Route 6. In addition, the southern portion of Herring Brook Road, also paralleling Route 6 would be congested. During winter, only about one mile of Route 6, the segment just north of the Orleans rotary would be congested. Thus, winter conditions will be approaching current summer traffic conditions with congestion expected along Route 6 north of the Orleans rotary. This trend is consistent with growth in traffic from the last 20 years all over Cape Cod. See Maps 14 and 15.

Peak Travel Demands at Build-Out under Current Zoning

During peak hours in the summer, traffic conditions under this scenario are projected to be worse than projected for the Future Land Use in Year 2020 with current zoning. During the peak hours in the summer, the entire length of Route 6 and Bridge Road would continue to operate over capacity, and all of Herring Brook Road but north of Old State Highway/Oak Road would operate over capacity. Some portions of Herring Brook Road north of this location would be congested.

During the peak hours in the winter, the same conditions would continue as described in the Future Land Use in Year 2020 with current zoning. Only about one mile of Route 6, the segment just north of the Orleans rotary, would be congested. See Maps 16 and 17.

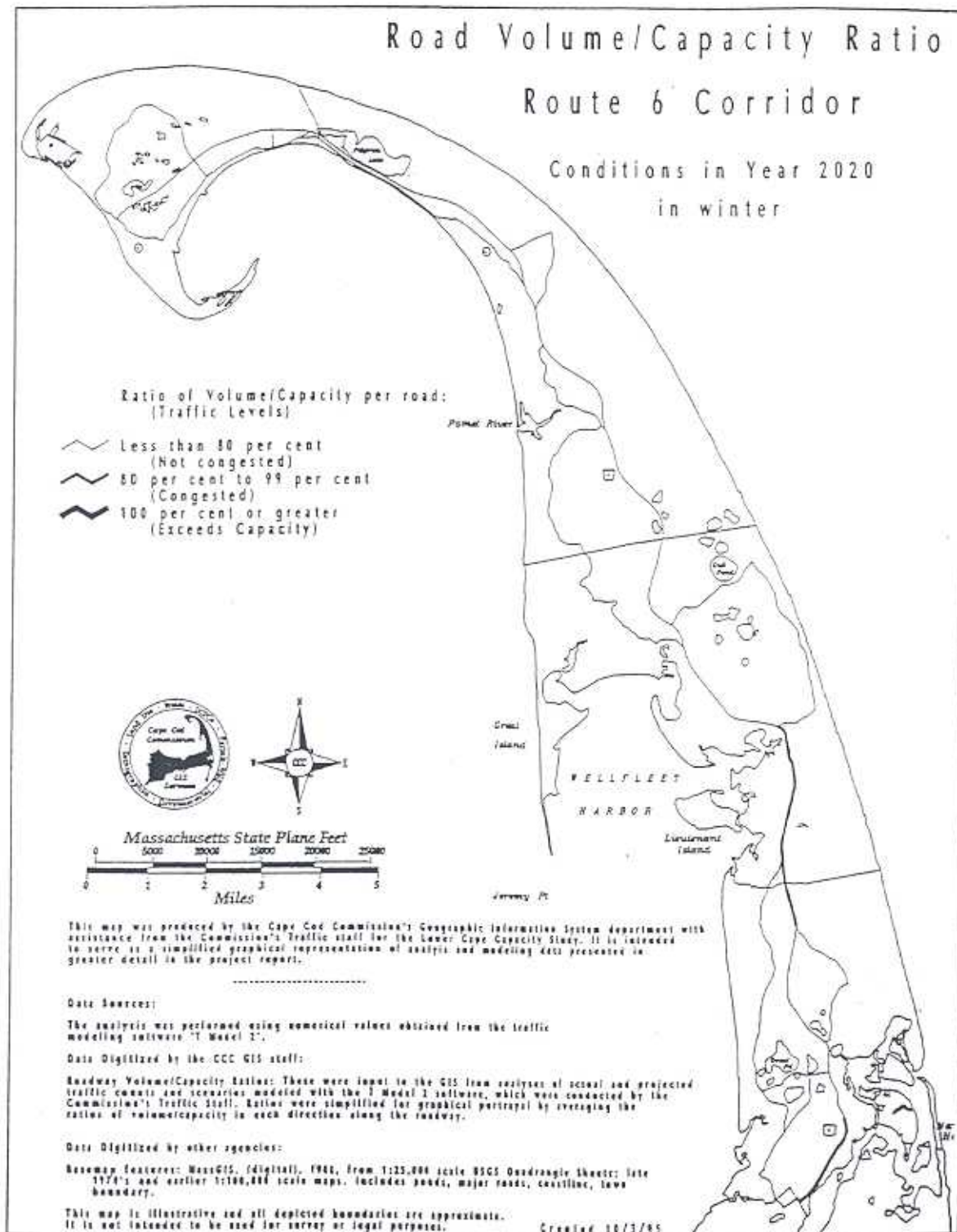
Peak Travel Demands at Build-Out and a Conversion of Two-Third Seasonal Housing to Year-round Residential Use

During the summer peak hour, traffic conditions are projected to be the same as described in the Build-Out with current Zoning Scenario. The entire length of Route 6 and Bridge would continue to operate over capacity, and all of Herring Brook Road but north of Old State Highway/Oak Road would operate over capacity. Some portions of Massasoit Road north of Old State Highway/Oak Road would be congested.

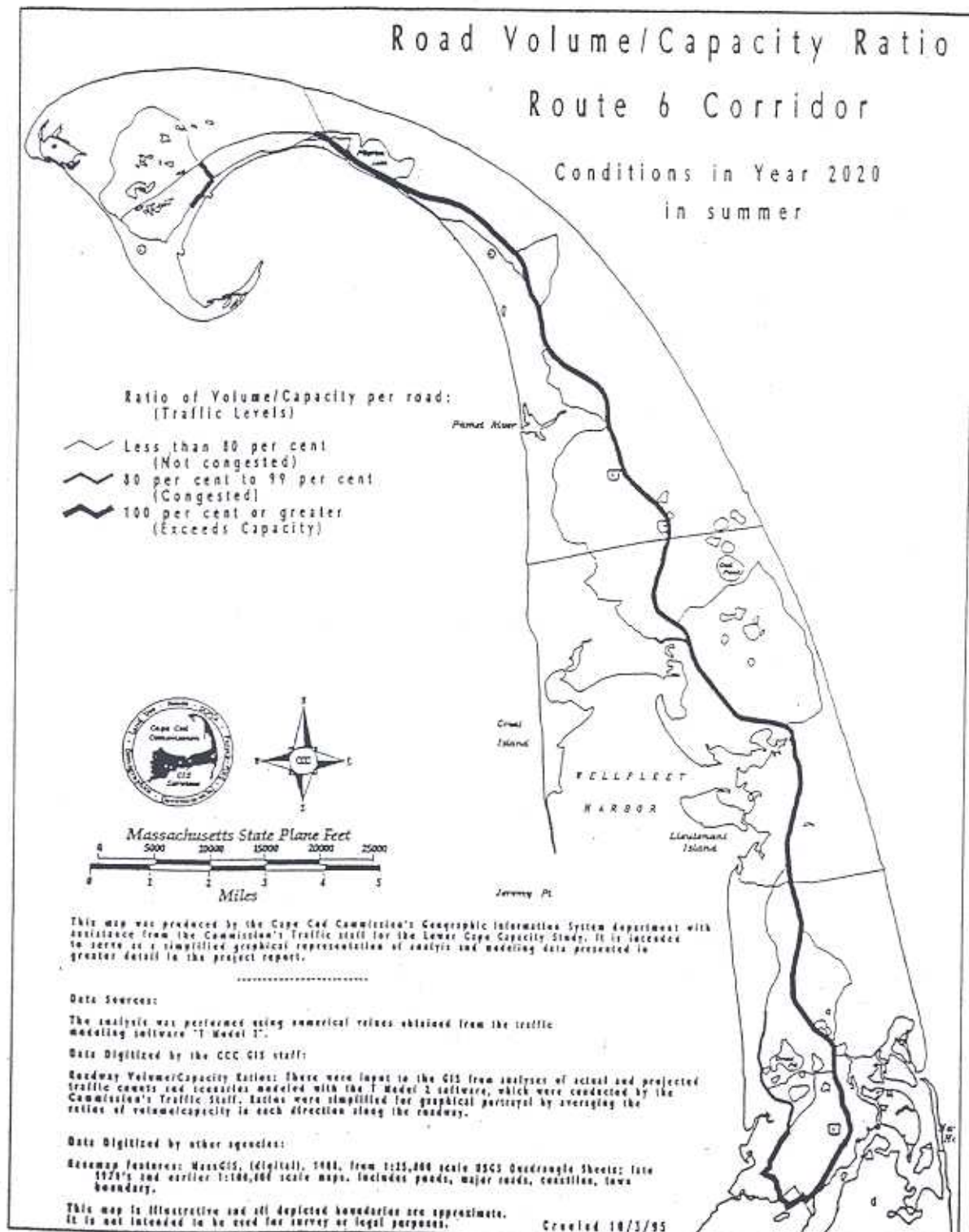
During the peak hours in the winter, traffic conditions would be worse than described in the Build-Out with Current Zoning Scenario. Route 6 between the Salt Pond Road traffic signals and the Orleans rotary would be over capacity. The remaining portion of Route 6 would be congested. At the same time, the entire length of Bridge Road would be congested. See Map 18.

Thus, during peak hours all year-round, the entire length of Route 6 would be congested with some segments over capacity. At the same time, segments of other parallel roads would be congested.

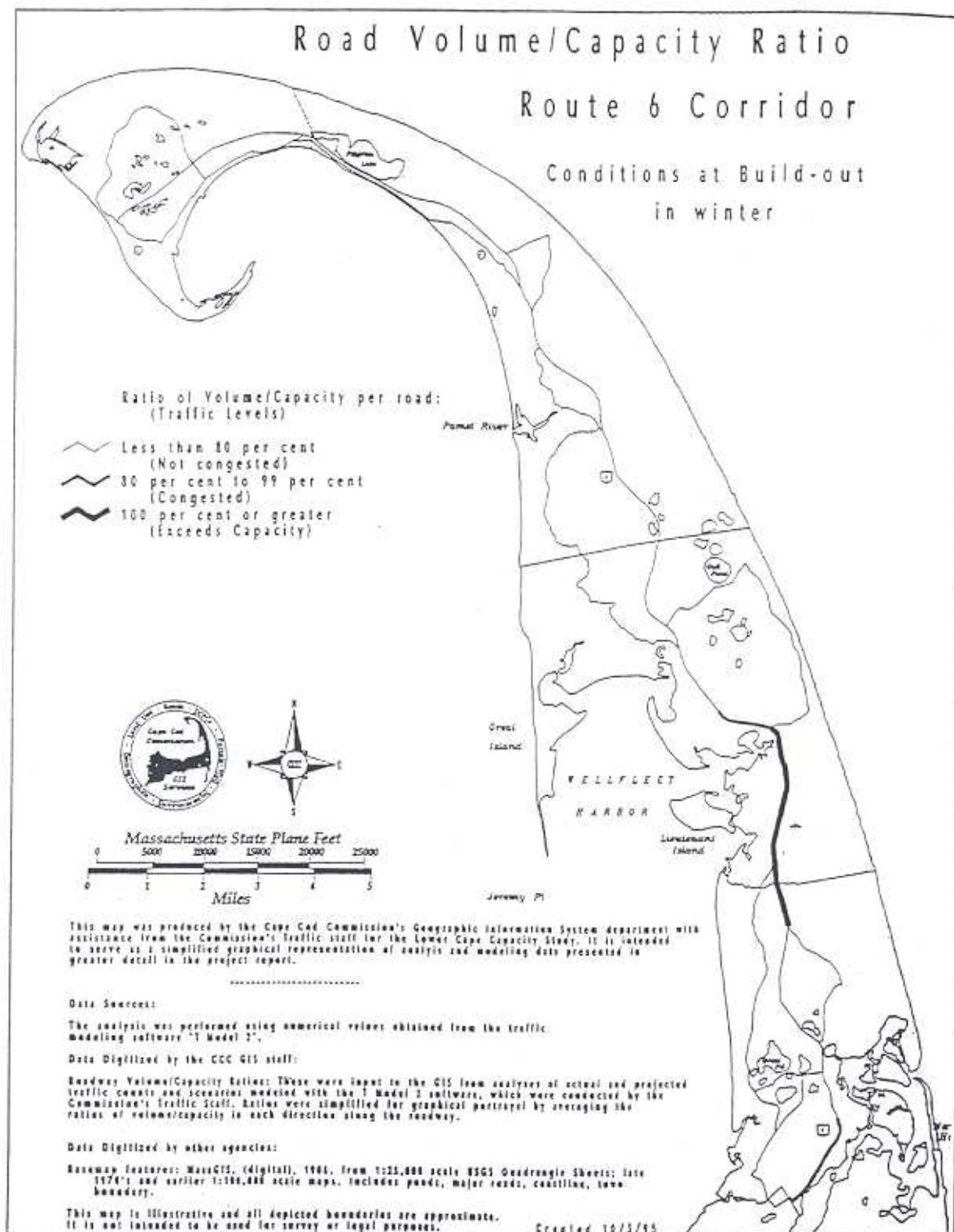
Map 12: Road Volume Capacity Ratio – Route 6 Corridor – Conditions in Year 2020 (Winter)



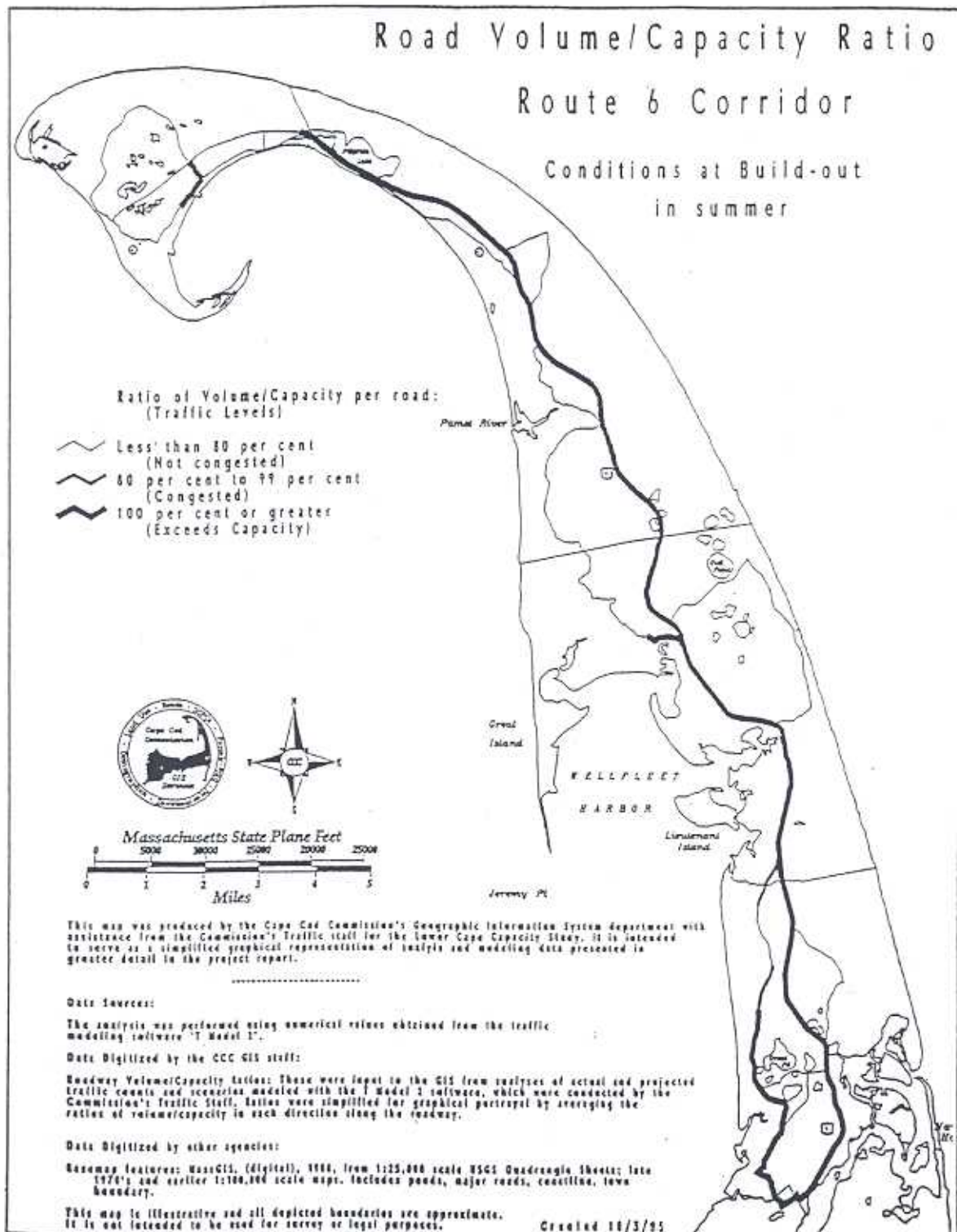
Map 13: Road Volume Capacity Ratio – Route 6 Corridor – Conditions in Year 2020 (Summer)



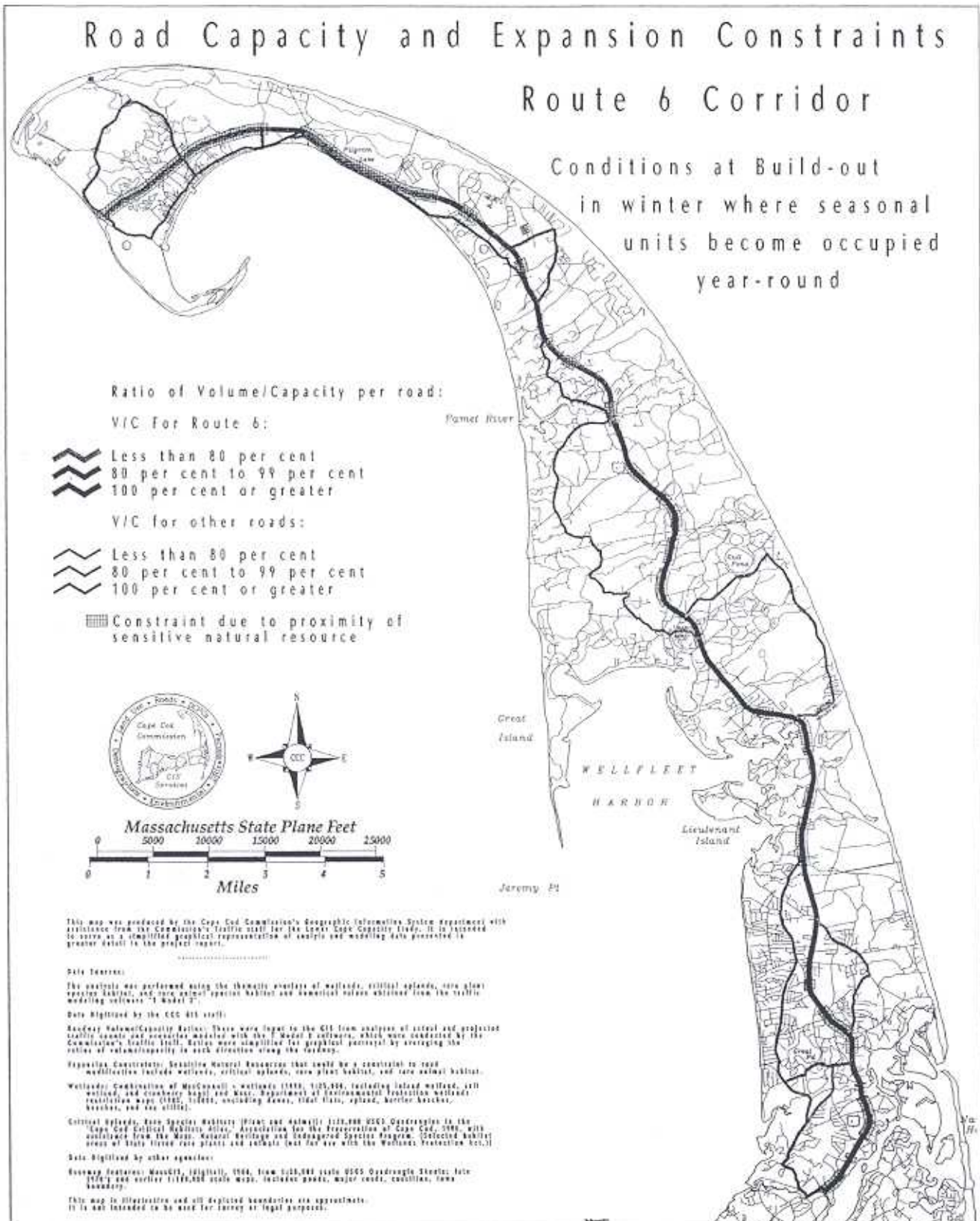
Map 14: Road Volume Capacity Ratio – Route 6 Corridor – Conditions at Buildout (Winter)



Map 15: Road Volume Capacity Ratio – Route 6 Corridor – Conditions at Buildout (Summer)



Map 16: Road Volume Capacity Ratio – Route 6 Corridor – Conditions at Buildout where 2/3 of Seasonal Housing Units Become Occupied Year Round (Winter)



Summary of Potential Future Transportation Problems

This comprehensive plan recognizes the complex interrelationship between growth, land use, provision of infrastructure and services, access to jobs and educational opportunities, tourism, the maintenance of community character local demographics and the environment. Growth influences land use, which in turn influences the transportation system and ultimately the environment. The Town expects to continue to attract new development and expects increasing growth in tourists, summer population, and visitors to continue. More recent studies by the Cape Cod Commission, The Cape Cod Transportation Council and the RTA broaden this study to provide a vision of all transportation factors. The Outer Cape Capacity Study (OCCS) provides a glimpse into the future of the location of new development, how much would occur, and when buildout would occur.

The OCCS plan recognizes that a future for Eastham which achieves a desired future growth, land use, transportation system and environment must resolve potential conflicts with the transportation system and the costs for additional infrastructure and services. Future capacity with transportation include:

- Insufficient Route 6-roadway capacity to support the projected travel demands expected in the future under current zoning.
- Degradation in safety along Route 6 with additional uncontrolled curb cuts.
- Extensive use of residential roadways parallels to Route 6 as an alternative to Route 6.

As noted earlier, the dual role of Route 6 as the regional highway and "Main Street" does not go unnoticed by residents of Eastham. This dual role creates a precarious situation and is considered to be the major transportation concern not only for the safety of the residents but as a threat to the semi-rural character of the Town, especially, but not exclusively, during the summer months. The two functions of the road are incompatible with each other and with the residential character of the area, which requires numerous curb cuts. Route 6 provides little "friendly" access for the pedestrian or bicyclist, with only two (2) pedestrian signals located along the six- (6) miles of roadway. The posted speed limit is 40 miles per hour along Route 6.

Traffic volumes compiled by the Cape Cod Commission in show that half (1/2) of all traffic entering Eastham along Route 6 at the Orleans rotary exits in Eastham, leaving the remaining half (1/2) to travel northbound to either Wellfleet, Truro or Provincetown. It is inevitable that the Town will continue to share both the positive and negative impacts associated with the National Seashore and through traffic. It is also inevitable that the Outer Cape will continue to remain a destination for those who wish to explore the natural landscape of the area.

This makes it essential that the town government work closely and officially with the National Seashore and other regional transportation organizations.

Roadways

The Massachusetts Highway Department has proposed several traffic mitigation measures for Route 6. The State and the Cape Cod Commission are continuing to study the route and are currently considering the long-term impacts associated with the current Route 6 road design from Dennis through Orleans, including the impacts that would be placed on Eastham. While the long-term destiny of improvements to Route 6 are beyond the Town's jurisdiction and lie with the State, the Town recognizes it plays a key role in the viability of any long-term solutions by controlling land use activities within its jurisdiction.

Additionally, the Town intends to work with the Commission on its Regional Infrastructure and Facilities (RIF) initiative to find solutions to transportation problems beyond its boundaries which impact Eastham, particularly Route 6. A key component of this planning initiative is integrating infrastructure, land use and environmental considerations to direct growth to locations most suited to support it.

Given the current traffic level of service experienced by the Cape and specifically the National Seashore, additional corrective measures must be undertaken along Route 6. During the peak tourist season (mid June to Labor Day), the Seashore receives approximately half of its five million (5,000,000) visitors. It is during this time that most of the accidents and other traffic-related problems associated with a high volume (e.g., parking and congestion) occur.

The long range vision for Eastham's roadway system is to ensure that future needs for travel within the Route 6 corridor do not cause the need for additional through lanes beyond the existing four through lanes. The only way this can be accomplished is through adjustments in the amount and intensity of future development potential in Eastham and the preservation of land for open space and increased use of public transportation. The Land Use and Open Space sections further address this issue and propose exploring measures to control curb cuts and limit/control development intensity in the corridor to reduce traffic conflicts and improve circulation and public safety. The vision for Route 6 also includes incorporating changes that would reduce the number of conflicts with current access. Further study of the Route 6 corridor is needed to establish an access management by-law for development, the development of collector roads linking individual commercial developments with Route 6, additional left-turn lanes along Route 6, and the locations where signalization may be needed in the future. Potential for the development of new collector roads may be difficult due to the right-of-way and environmental constraints.

Massachusetts Highway Department recently completed a study of Route 6. Work will involve; Governor Prence Road, the “hump” will be leveled to improve the line of site. (A traffic signal will not be installed). Major work to include new traffic signals to optimize timing and visual “walk” signals for pedestrians and bicycles to be installed at Samoset, Brackett, and the Salt Pond/National Park Visitors Center is programmed for the fall of 2002.

Signage

Route 6, from Provincetown to Bishop, Ca. is officially known as the “Grand Army of the Republic Highway.” A sign at the Rotary into Eastham should note this designation.

The rotary and other recently installed signs along Route 6 do not meet federal guidelines.

Advance signage of destination towns, distance, and junctions with Route 6 and 28 are missing. Yield signs should be placed on the left of the roadway as well as the right in order that drivers – who are looking left at traffic already circling the rotary – will realize that they do not have the right-of-way when entering the rotary. Pavement marking should be painted on the roadway to emphasize the yield requirement. Signs indicating “No Turns” should be replaced by the symbol sign for “No Left Turn.” To encourage driver observation of the 40-mph speed limit on Route 6, appropriate signs should emphasize enforcement of this limit. Consideration should be given to installing blue service guide signs in advance of both Eastham Center and North Eastham showing symbols for service available (i.e. gas, food, etc.).

Signage on town roads has been added incrementally over the years, leading to significant clutter and distracting from the key messages. Compounding this problem, warning signs that are no longer needed have never been removed (there are many examples of signs advising of “Blind Driveways” that are now easily visible; a “Deaf Child” sign on Massasoit Road still remains long after the two individuals in question reached adulthood).

Signage employs an inconsistent mix of words and symbols to convey the same message. In many instances, warning signs are ineffective because they employ two or more words to get their message across with the result that they are hard to read and absorb by the driver moving at post speed limit. Moreover, they may be unintelligible to foreign visitors of immigrant workers with limit knowledge of the English language. For instance, a sign such as “Bike Crossing Ahead Use Caution” (on 5 lines) should be replaced by the simple symbol of a bicycle.

When the Federal Highway Administration’s Manual of Uniform Traffic Control Devices offers a choice between a symbol sign and a word sign (for regulatory, warning, guide, and direction signs), the former should always be selected.

Bicycle and Pedestrian

Pedestrians and bicyclists for transportation and recreational purposes heavily utilize the Cape Cod Rail Trail through Eastham. The Town should make every effort to encourage these uses with a locally based marketing approach for all visitors and year-round residents, which

encourages non-automobile travel. A bicycle bridge is currently under construction, linking the Eastham bike trail to the center of Orleans and beyond. Construction is scheduled for completion in November 2002. The lack of signage along the Route in Eastham makes the trail difficult for users to reach their destination. Distance markers should be added.

New signage is need along bicycle and pedestrian paths to clarify where intersecting roads lead. The Cape Cod Rail Trail, in particular, would benefit from signage directing cyclists to Bay, pond, and Atlantic beaches as well as to year-round refreshments, retail stores, and the National Seashore Visitors Center. Signage should note Eastham's many historical attractions.

Improved connections between the Cape Cod Rail Trail and Seashore bike path to other areas in Town are needed. In addition, bicycle travel along Route 6 should be discouraged, since a safe alternative route exists.

Sidewalks, where they exist along Route 6, are especially utilized during the tourist season. Pedestrian crossings, however, for the most part are absent. The area of Brackett Road and Route 6, with perhaps the most commercial activity in Town, has limited sidewalks and no pedestrian crossings. Many residents along Massasoit Road, Oak Road and the Old State Highway utilize this commercial center of Town, and would prefer to access the businesses by bicycle and foot. Therefore, sidewalks and a pedestrian crossing would be considered appropriate for this area. Additional pedestrian crossings and sidewalks should be considered at each of the problem areas identified above. The sidewalk along the eastern side of Route 6 is unsafe in several respects for both pedestrians and bicyclists. Utility poles are often planted in the middle of the path, making passage difficult, curb cuts remain where there is no longer a driveway, and snow is never removed in winter.

Parking

Despite a considerable amount of Town controlled parking, there are severe parking constraints in certain areas. Lack of parking for tourist-related commercial establishments (North Eastham) and attractions (Library, Windmill and beaches) pose a serious problem for vehicular circulation. This situation coupled with an increase in bicycle and pedestrian traffic, as well as parking requirements associated with the completion of the Cape Cod Rail Trail, will only exacerbate the situation. Although municipal parking lots are provided for various Town buildings and recreational sites, there is little parking provided for tourist-related activity; therefore, as increases in tourism and population occur, additional parking facilities should be considered for both the Seashore and Bayside beaches.

By maximizing the use of existing parking areas and limiting the creation of new parking, controlling the capacity of available parking is one of the best ways to encourage the use of alternatives to automobile travel. To improve transit opportunities for residents and visitors traveling within Eastham, creation of shuttle bus service with routes within a short walk of major parking lots, principal residential areas and motels, traveling to popular destinations (i.e., beaches and attractions), would encourage users to "leave their cars behind".

Prior to the construction of additional parking facilities, the Town should explore complementary use of existing parking. For example, peak-parking demand for Cape Cod Rail Trail parking occurs on weekends and summer weekdays. The Orleans District Court House parking has limited weekend use; the Nauset Regional High School parking lot has limited summer use. The Town should work closely with the National Seashore to ensure those adequate parking facilities and safeguards are in place. If the need arises for additional Seashore parking facilities, the Town may wish to provide satellite parking and shuttle service for a fee. Prior to expanding Town parking facilities, the Town should consider the additional strains that may be placed on other resources. For example, increasing beach parking must be balanced with adequate staffing for supervision and sufficient rest room capacity.

Public Transportation

A survey done by the Lower Cape Community Coalition in March '02 showed a need for youth-based transportation service for jobs, recreation, between towns, etc. Marketing and teen endorsement will be essential in addressing needs.

With the anticipated increase in population, especially among older residents, an increase in dependency on public transportation will occur. Most recent figures published in the Cape Cod Voice indicated that Eastham ranks 10th in the Commonwealth in residents 65 and older those percentages are expected to grow. Increases in tourist-related traffic may make some reluctant to drive. These factors point to a need for increased door-to-door van service or for a coordinated pick-up service to central bus stops. Fast, reliable and frequent bus service between Eastham and other major destinations such as Hyannis, Cape Cod Community College, Boston, and the regional airports would benefit job seekers, residents and tourists. Shuttle bus service between Outer Cape towns and the National Seashore beaches in Eastham and Wellfleet should be considered to relieve summer traffic congestion on Route 6. Development of the Orleans and Chatham COA's bus "BLT" (Boston Local Transit) is a positive example of a coordinated transit plan for the elderly.

- The following recommendations are made in an effort to improve the existing level of transportation service to the Town of Eastham. In order to accomplish many of the actions listed below, the Town must work with other Outer Cape communities as well as regional and state agencies such as the National Seashore, Cape Cod Commission, the Cape Cod Regional Transit Authority, the Massachusetts Highway Department and the Cape Cod Transportation Council. We need to maintain an active voice on the Regional Transit Board. Also, Eastham should appoint a Transit Task Force with representatives from the COA, Seashore, Highway Department, Regional Transportation Authority, Nauset Schools, Selectmen, and the Chamber of Commerce.
- Further study of the Route 6 corridor is needed, including investigation of an access management by-law for development; the development of collector roads linking individual commercial developments with Route 6; additional left-turn lanes along Route 6; and the location where signalization may be needed in the future. This study should include cost estimates and funding sources, such as property tax revenue, new development impact fees, and state transportation funds.

Transportation improvements for Route 6 should include incorporating changes to reduce the number of conflicts with access and adjusting land use in the Town to eliminate the need for additional through lanes.

Implementation

Recommended Town Actions

- A. Identify areas in need of curb cut reductions and/or access improvements and make recommendations for the accomplishment of these reductions to the Massachusetts Highway Department. The Planning Board should develop a comprehensive strategy for reducing and limiting curb cuts along Route 6 in coordination with the Massachusetts Highway Department. In addition, a Site Plan Review process, which addresses curb cut reductions and access control, should be developed.
- B. Develop an aggressive open space preservation program to reduce the build-out potential of the Town (see Open Space section).
- C. Establish a traffic impact assessment program to require an evaluation of the impacts of new developments and expansions (especially non-residential) on Levels of Service for local and state roadways.
- D. Request that the Massachusetts Highway Department provide turning lanes and a pedestrian crossing at Brackett Road and Route 6. Further, the Town should consider additional turning lanes, turn restrictions, signalization, directional restrictions and pedestrian crossings at other dangerous intersections or problem areas along Route 6.
- E. To enhance and maintain public safety of the bike trails, the Town should initiate a program to inform both the Commonwealth and National Seashore of needed maintenance to their respective bike trails.
- F. Sidewalks should be constructed along the easterly side Route 6 and in the vicinity of Massasoit Road, Oak Road and the Old State Highway, as well as other areas, which are heavily used by pedestrians. Additionally, since primarily only the west side of Route 6 has sidewalks, additional locations other than those noted above should also be considered along the east side of Route 6 and other locations in town as conditions warrant.
- G. Identify and re-establish (if appropriate) any abandoned rights-of-way.
- H. Work with the Massachusetts Highway Department to develop a sidewalk maintenance program/agreement for Route 6, including regular mowing, sweeping and plowing to enhance pedestrian safety.
- I. Work with the appropriate agency(s) to remove, relocate or bury utility poles.

- J. A Town Hall area plan should be created to include signage, lighting, sidewalks, undergrounding of utilities, and additional traffic mitigation measures for this area, both to slow traffic speed and to increase the awareness of Eastham's civic and historic (Windmill) center.
- K. Begin to identify Route 6 as "Main Street" or "Grand Army of the Republic Highway" to give Eastham a greater sense of place. Signage entering the Town can emphasize this recognition, which should distinguish this portion of Route 6 from any other.
- L. The Bikeways Committee recommends improvements and has encouraged bicycle use for both recreational purposes and commuting to neighboring communities (see Open Space section). Consideration should be given to installation of bicycle racks and rentable storage bins in appropriate locations. Bicycle racks should be provided at all Town beaches, in environmentally appropriate locations. The Town should work with the State and National Seashore to maintain bicycle paths, including regular mowing, sweeping and plowing. The committee should also encourage the State to consider additional rail trail parking including using school parking lots, the Orleans District Court parking lot and other locations that are not heavily used on weekends or during the summer. These options should be explored prior to the construction of new parking lots.
- M. Increase buffers and/or adopt a land coverage requirement to reduce the intensity of non-residential development and resulting vehicle trips per day.
- N. Update and Implement the recommendations of the Eastham Pavement Management Study, and include the Cape Cod Rail Trail and National Seashore bicycle path as part of the program. The Town should coordinate with the State and National Seashore to ensure adequate maintenance of bicycle paths.
- O. Provide signage along the Cape Cod Rail Trail to indicate beaches, commercial areas and other attractions within the Town.
- P. Work with neighboring public transportation communities, the State, the Cape Cod National Seashore, Cape Cod Regional Transit Authority and other public transportation agencies to improve seasonal bus service in the Outer Cape, including increased shuttle service to National Seashore beaches from remote parking areas and town center locations. Town should explore the feasibility of using existing parking lots to meet seasonal needs. The Town will work to identify and create appropriate bus stops and shelters.
- Q. Explore ways to expand regional transit service for Eastham.
- R. Local by-laws should be considered to increase lot sized and the frontage of lots on Route 6.
- S. Purchase available land that fronts on Route 6.
- T. Traffic signals on Route 6 should include “walk” signals for pedestrians and bicycles.

- U. Ensure Highway signage is in accordance with the Manual of Uniform Traffic Control Devices.
- V. Require regulatory and warning traffic signs that employ symbols.
- W. Remove inappropriate and unnecessary traffic signage.
- X. Remove signage no longer appropriate.
- Y. Work with Mass Highway and the Cape Cod Commission to pursue installing a traffic signal at the Route 6 / Governor Prence Road intersection to improve traffic and pedestrian safety. Including a pedestrian crossing phase would provide safe access for residents on the east side of Route 6 to the existing sidewalk network located on the westerly side.

See “Transportation”, “Capital Facilities and Infrastructure”, and “Land Use” in the Implementation section.

COMMUNITY FACILITIES - SOLID AND HAZARDOUS WASTE MANAGEMENT

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for Solid and Hazardous Waste Management. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan.

- 4.2 Goal:** To manage solid waste using an integrated solid waste management system that includes waste reduction, recycling, reuse, composting, incineration and landfilling. The underlying intent is to maximize the reduction of trash as the means to maximize reduction of costs and to minimize environmental damage.

Minimum Performance Standards

- 4.2.1 Developments of Regional Impact (DRI) shall address both the construction and post-construction phases of development or re-development. A construction plan shall demonstrate how the applicant proposes to handle solid wastes, recyclables and construction/demolition wastes.
- 4.2.2 If construction demolition is to be generated as part of a proposed development or redevelopment, written notification will be required for the following:
- The types of material that will be generated, manner by which recycled materials as part of the C&D waste stream will be separated and stored on site prior to disposal;
 - The destination of all recycled materials separated out from the C&D waste stream; the manner by which both C&D and recycled materials will be delivered to markets; and, written notification from the Bourne ISWMF stating that the amounts of C&D to be generated and disposed can be accepted at the Bourne facility without compromising the ceiling put in place by both the Commission and the DEP.
- 4.2.3 A post-construction management plan shall demonstrate how an applicant proposes to handle the following:
- Recyclables and solid waste, including the manner by which they will be collected on site;
 - Location and type of containers where the materials will be stored on site;
 - How collection and holding facilities will be screened from abutting properties;

- The types of materials to be generated the anticipated quantities of materials to be generated;
- Destination of materials.

4.3 Goal: Hazardous wastes generated by Eastham households and businesses shall be disposed of in an environmentally sound manner.

Minimum Performance Standards

- 4.3.1 The Town shall place strong emphasis on proposed development and redevelopment to minimize their hazardous waste generation through source reduction, reuse, material substitution, employee and citizen education, and recycling.
- 4.3.2 All activities and developments shall be in compliance with Massachusetts Hazardous Waste Regulations, 310, CMR 30.00.
- 4.3.3 The use, treatment, generation, storage or disposal of hazardous wastes or hazardous materials, with the exception of household quantities, shall not be allowed in Zoning Districts G (Water Protection), and Zoning District H (Wellhead Protection).
- 4.3.4 Development and redevelopment shall prepare an emergency response plan that identifies potential threats to employee safety and health and threats of environmental releases and describes ways to reduce those threats.

Existing Conditions

The Eastham Board of Health has adopted regulations, which address the management of solid waste and recyclable materials, and transfer station operational standards. The regulations require the separation of compostable and recyclable materials from refuse which goes to SEMASS or to a landfill. These regulations supplement 310 CMR 19.000, which for The Town of Eastham adopts enforcement purposes.

The Eastham Transfer Station in the Fiscal Year ending June 30, 2001 handled 3924 tons of trash including 3411 tons that were sent to SEMASS for incineration and 513 tons of trash that was sent to the Bourne landfill for disposal. In addition 920 tons were recycled instead of being disposed of as trash; 30 additional tons were moved through the Eastham Stock Exchange (swap shop) to be reused. Residents purchased 80 additional compost bins from the Town in 2001 to add to the large number of bins now in use. They provide another means to reduce the amount of trash that would be sent to SEMASS.

Hazardous household products including auto batteries, tires, used oil and oil filters, fluorescent lamps and bulbs, items containing mercury, propane tanks and latex/oil-based paint were collected in 2001 through the Board of Health annual Hazardous Waste Day collection or throughout the year as special drop-offs at the Transfer Station.

The Town received awards from the DEP for increases in the tons of material recycled, and the Town also received a grant for a special study to identify steps to be taken to provide recycling access for the large seasonal population. This study will proceed in 2002.

Problems/Needs

A redesign plan for the Transfer Station has been developed by the Recycling Committee and Weston & Sampson Engineers. The current transfer station was built at a time when recycling involved one recycling roll-off which was located off in one small corner. Currently, still in the same area, the core recyclables of the Town include cardboard, mixed paper, newspapers, returnables (glass, metal, plastic), clear glass containers, colored glass containers, plastic containers 1 & 2, and metal cans and aluminum trays.

The recycling area is totally located on dirt, which makes moving and dragging equipment a crude process. It also makes using the area difficult for recyclers because of awkward access to the drop-off points. Traffic and walking is a complicated and precarious situation particularly during the summer periods. The current recycling area is too small, and it is impractical to implement a new design in the current location. Transportation costs have escalated due to the increased volume of recyclables and to higher prices for hauling both trash and recyclables. The situation is aggravated by the low density of some recyclables and the lack of equipment to compact loads effectively. Significant and recurring cost reductions can be accomplished by utilizing compactor roll-offs to handle most recyclables. Compactor roll-offs equipped with receiving-hoppers, which are easy to access for users, can make recycling much more attractive to more people. The easier recycling is, the more people will recycle and the more people recycle, the less trash we generate.

The contract with the SEMASS waste-to-energy facility for incineration of solid waste expires in 2015. As with most other Cape towns, Eastham's cost per ton is much lower than the current and projected market rates for disposing of trash at SEMASS. There is concern that a new contract may be at a much higher cost to the community. Visits to Nantucket and Marlborough were made to observe their solid waste composting facilities and consider the applicability of a regional composting process as a possible future alternative to SEMASS. Other alternatives need also to be identified and considered. It is also recognized that strong efforts to divert increasing amounts of materials to recycling, reuse and composting would enable Eastham to avoid sending related amounts of trash to SEMASS and avoid those SEMASS costs. Since these types of reductions repeat in future years and can be enhanced by additional future increases in recycling etc., the impact in 2015 on the amount of trash and cost that the community will need to address could be very significant.

The Board of Health has been involved in an effort whereby several towns would jointly take part in several Hazardous Waste Days each year. Such a step would provide citizens of each town the opportunity to dispose of such waste several times a year -- good for individuals, towns and the environment. Agreement among the towns has not been reached.

The majority of seasonal residents, including short-term vacationers, are not recycling during their stay in Eastham. The Town has a study grant from DEP which will explore what needs to be implemented in order to make it possible for vacationers to recycle on a source separated basis and what needs to be done to provide haulers the capability to unload bulk recyclables at the Transfer Station.

Implementation

Recommended Town Actions

- A. Eastham should work with other Cape Cod communities to find acceptable methods to recycle, compost or dispose of construction and demolition debris, mattresses, DPW wastes, and Tri-Town Septage Treatment Facility by-products (grit, screenings and sludge).
- B. To offset the increased cost of disposal of non-recyclable solid waste, Eastham should focus on maximizing recycling by making recycling easy, by promoting access to recycling for seasonal residents, and by utilizing other incentives to recycling such as unit based pricing.
- C. Eastham should consider dedicated funding for an annual household hazardous waste collection for residents to dispose of accumulated hazardous waste.
- D. Eastham should contract to implement the redesign plan for the Transfer Station.
- E. Eastham should adopt a toxic and hazardous materials bylaw to prevent the improper use, storage and disposal of such materials, utilizing the Barnstable County model bylaw or other similar bylaw.
- F. Eastham should continue to work toward multi-town joint participation in the collection of hazardous waste with a goal of providing citizens the opportunity to drop off hazardous waste several times per year.
- G. Eastham should continue to seek out alternatives to processing of solid waste including possible regional solutions and evaluate viable long-term alternatives to SEMASS.

See “Solid and Hazardous Waste Management” in the Implementation section.

COMMUNITY FACILITIES - CAPITAL FACILITIES/INFRASTRUCTURE

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for Capital Facilities/Infrastructure. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan.

Town of Eastham Goals and Performance Standards

- 4.4.1 Goal:** To identify and provide state-of-the-art community and regional facilities which meet community and regional needs consistent with the goals and policies established in the Eastham Local Comprehensive Plan (LCP), Regional Policy Plan (RRP), and the Cape-wide Regional Infrastructure and Facilities (RIF) Plan.

Minimum Performance Standards

- 4.4.1.1 Approval of development and redevelopment that increase the intensity of use shall be based on existing infrastructure and system capacity or on a development's ability to provide the infrastructure and services necessary to support it. The provision of infrastructure and services shall be consistent with the Minimum Performance Standards in the Regional Policy Plan and consistent with the town's Local Comprehensive Plan, Capital Improvements Plan, and the Regional Infrastructure and Facilities Plan. Outside of Growth/Activity Centers and Growth Incentive Zones installation by the developer of necessary infrastructure shall be timed to meet the need generated by the development. Within Growth/Activity Centers and Growth Incentive Zones, the developer may provide a contribution of funds toward the necessary improvements.
- 4.4.1.2 Development of new infrastructure shall occur only after an analysis of the impacts of this infrastructure with regard to land use, traffic, water quality, natural resources, affordable housing, community services, historic preservation, and community character as well as other applicable issue areas noted in the Regional Policy Plan and shall be consistent with the town's Local Comprehensive Plan and Capital Improvements Plan and with the Regional Infrastructure and Facilities Plan.
- 4.4.1.3 Privately provided infrastructure to serve development and redevelopment shall be consistent with the Local Comprehensive Plans and the Regional Infrastructure and Facilities Plan and, when constructed off-site, shall receive formal approval from the town and other jurisdictional agencies, such as the Massachusetts Highway Department or the Department of Environmental Protection, prior to construction.

Other Developmental Review Policies

- 4.4.1.4 Public investments, including construction or expansion of infrastructure and facilities, including but not limited to municipal buildings, water supply and distribution, sewage collection and treatment, roads, telecommunications, and related facilities, should

reinforce the traditional character and village development patterns of Cape Cod. This includes burial of electric and telecommunications utility lines.

- 4.4.1.5 Development and redevelopment should be encouraged to locate in Growth/Activity Centers and Growth Incentive Zones and areas where sufficient capacity exists with regard to transportation and water resources, and where adequate infrastructure already exists or is planned in the Local Comprehensive Plans and/or the Regional Infrastructure and Facilities Plan.

- 4.4.2 Goal:** To encourage the provision of state-of-the-art and appropriately sited telecommunications infrastructure and facilities so as to promote economic development, telecommuting, and preservation of the quality of life and visual character of the Cape, and to make available high-speed telecommunications services to all communities and all classes of users.

Minimum Performance Standards

- 4.4.2.1 Wherever feasible, new wireless telecommunications facilities shall be required to locate on existing structures and/or co-locate with existing facilities in order to minimize their visual and environmental impacts. Construction of new telecommunications towers requires the commitment of two or more co-locators and shall be consistent with Wireless Technical Bulletin 97-001, as amended. All wireless telecommunication facilities shall locate on town owned land.

Other Development Review Policies

- 4.4.2.2 Development of new office and industrial buildings should include wiring to provide high-bandwidth fiber optics, for either present or future service capabilities. Redevelopment of existing office space and industrial buildings should provide a cost analysis for retrofitting to provide high-bandwidth fiber optics.
- 4.4.2.3 Redevelopment of existing office space and industrial buildings should be encouraged to provide installation of high-bandwidth fiber optics.

Background

A discussion of capital facilities and infrastructures in Eastham is best handled as parallel but separate discussions. Capital facilities include municipal buildings, such as public safety structures, libraries, schools, municipal office buildings, parks and community centers. Capital infrastructure is generally considered as limited to structure supports such as roads, water service, solid waste disposal, wastewater management, utilities and telecommunications. The necessity for these capital facilities and infrastructures drives and limits population growth in a community. The growth in population in the Town of Eastham and the age of existing capital structures has required the town to engage in the renovation, expansion, construction and several major municipal capital facilities. Infrastructure improvements, primarily municipal water, and undergrounding of electrical service, have been so limited as to be non-existent.

Telecommunications upgrades have occurred as the local Cable Company rebuilds and includes an upgrade to fiber optic and high speed Internet for residential customers only. A major bridge across Boat Meadow Creek on Bridge Road was rebuilt, several local roads have been resurfaced to high quality asphalt, and portions of Route 6, the main road in the town has been resurfaced and new drainage has been added.

Infrastructure improvements have kept pace with population growth in some areas and are woefully inadequate in others and overall have not been as focused and concentrated as would be necessary if this were to serve as a real growth tool.

The Regional Policy Plan encourages the development of infrastructure in such a way as to concentrate growth in these well serviced or Growth/Activity Centers and Growth Incentives Zones. Land use planning tools such as zoning, overlay districts, and incentive or bonus zoning may also prove useful in creating such zones. Surely, the infrastructure limitations will be the key component in shaping community growth and thus the relationship between community services and growth is very important.

New development agreements or special permit conditions can assist in funding or constructing needed infrastructure. But fiscal incentives to the town from the developer cannot hold sway over unwisely located infrastructures, which create growth opportunities inconsistent with the local and regional model of creating growth centers.

The Local Comprehensive Plan should provide the guidelines for the provision of needed services, including timing and funding. Such a plan examines the existing conditions and then suggests long-range goals.

Existing Conditions

In the time since 1996, the Town of Eastham has completed the upgrade and renovation of several of the Town's fixed assets. A list of key projects included:

- Closure and capping of the active landfill site
- Renovation of the Eastham Town Hall
- Construction of a new Fire Station
- Reconstruction of Wiley Park Rest Room

Two major projects are in the planning stages: the redesign and expansion of Transfer Station (2002), and the feasibility of renovation or new construction of the elementary school (2002).

The town of Eastham landfill, while still under Department of Environmental Protection (DEP) orders to continue testing and monitoring of gas and water quality, is completely capped and closed to the satisfaction of DEP. The project was completed at a cost of 1.1 million dollars. The funds were borrowed from the state's Water Pollution Abatement Trust for 0%. The Eastham landfill was one of the first in the state to take advantage of this funding source for landfill capping and was also among one of the first landfills on the lower/outer cape to be closed and capped.

In 1999 funding was approved for the construction of a new fire station. The new station built on the site of the old is more than twice the size of the old station and is expected to serve the needs of the citizens for the next twenty-five to thirty years. The station was complete in October 2001. It is capable of accommodating an overnight staff of eight, the garage area will hold eight pieces of equipment and gear, and the building is fully sprinkled.

In 1999 the Town applied for and was awarded a grant to reconstruct the bathhouse at Wiley Park. The facility was in poor condition and was not handicapped accessible. Using local and state funds the facility was upgraded and a ramp constructed to provide access to the water. This project cost in excess of \$200,000.

In 1999 the Town was awarded a grant to construct a shellfish hatchery and training facility on town owned land. The project resulted in the “greenhouse” like facility at Hemenway Landing. This facility trains mostly low and moderate-income individuals in aquaculture techniques. It also serves as a local hatchery and facility for the Town of Eastham and county seed stock.

Additional Projects Under Discussion Include:

- Roadway maintenance (on-going);
- Construction of a 1,600 linear foot ocean-side beach with a 300-car parking lot;
- Improvement of all beach restroom areas and parking lots; and
- Addition to the DPW facility to accommodate the municipal building department

Following is a listing of all existing town owned property over 5 acres. (This listing does not include landings, beaches, or open space.)

Table 22: Town Owned Property over 5 Acres (Exclusive of landings, beaches and open space)

Property	Acreage
Old County Road (Blk.28 Lot 5)	5.00
Highway Department (555 Old Orchard Road)	18.93
Herringbrook Road (31 Wiley Park)	44.10
725 Samoset Road	17.06
1620 Samoset Road (26A Comfort Station)	29.52
End of Samoset Road	6.10
Lamont Smith	23.69
200 Schoolhouse Road (Eastham Elementary School)	11.40
Municipal Facilities (Town Hall, Fire, Police, Little League)	8.21
Candlewood and Forrest Avenue	16.70
Roach Property	63.30
Merrill - Samoset Road	0.50
Purcell Property	11.00

Source: Town of Eastham

Table 23: Town of Eastham Asset Inventory and Location

Title	Address
General Government:	
*Town Hall and Recreation Building	2510 State Highway (Rt. 6)
Public Safety:	
*Police Station	2600 State Highway (Rt. 6)
*Fire Station	2550 State Highway (Rt. 6)
Education:	
Elementary School	Schoolhouse Road
Public Services:	
Department of Public Works (DPW)	555 Old Orchard Road
(Garage, Tractor Shed, Shed)	555 Old Orchard Road
Roadway System (46.4 miles)	Throughout Town
Septic Waste System	
(Tri-Town Septage Plant, 1/3 owner)	Orleans
Solid Waste Disposal System	
(Transfer Station)	Old Orchard Road
Common Facility and Service Assets:	
Public Library	Samoset Road
*Senior Citizens Center	Nauset Road
Recreation System:	
Little League Field	2500 State Hwy. (Rt. 6)
Information Booth	Route 6
Comfort Stations (3)	First Encounter
	Cooks Brook Beach
	Wiley Park
Historic Site – Old Windmill	Route 6
Cemeteries:	
Herring Pond	Bridge Road
Congregational and Soldier's	Route 6
Old Cove Burial Ground	Route 6

Table 23: Town of Eastham Asset Inventory and Location (continued)

Public Beaches with Parking Lots:	
South Sunken Meadow	Off Sunken Meadow Rd
Cooks Brook	Off Steele Road
Campground	Off Shurtleff Road
Thumpertown	Off Thumpertown Road
Wiley Park	Off Herringbrook Road
Cole Road	Off Cole Road
First Encounter	Samoset Road
Great Pond	Great Pond Road
Herring Pond	Off Herringbrook Road
Rock Harbor (marina)	Off Dyer Prince Road
Collins' Landing (boat Launch)	Off Route 6
Hemenway Landing (ramp & parking)	Off Route 6
Salt Pond (parking)	Off Route 6
Vehicles and Rolling Stock (40 units)	Throughout Town

Source: Town of Eastham

**Emergency Facilities/Shelters plus Nauset Regional High School*

NOTE: Nauset Regional, Eastham Elementary and Nauset Middle Schools are classified Emergency shelters. The Nauset Kennels is designated as emergency animal shelter/hospital.

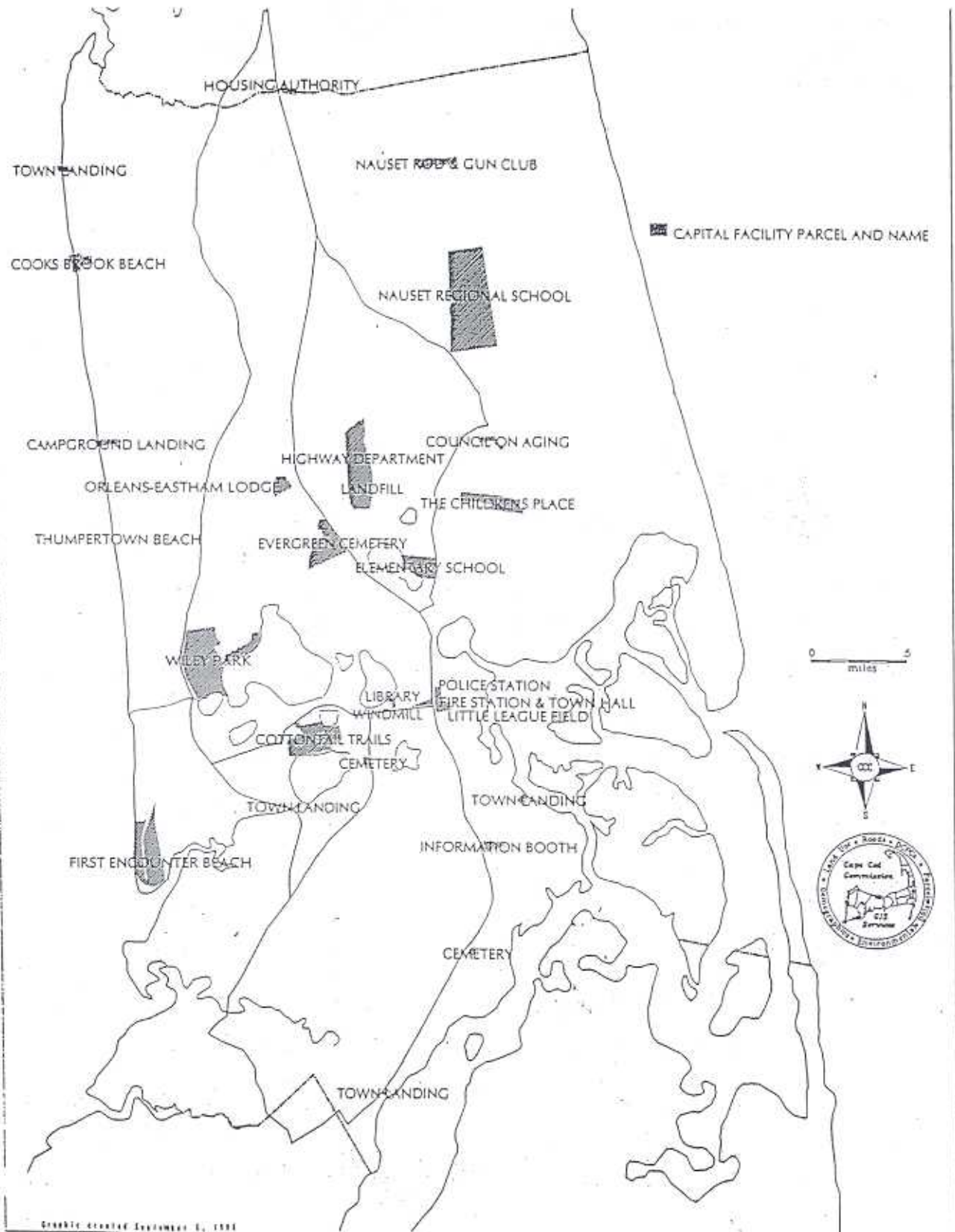
Funding information for town projects is provided below:

Table 24: Direct Debt Summary - June 30, 2001

**General Obligation Bonds
Outstanding:**

Project	Date of Issue	Outstanding at 6/30/01
Town Hall Renovations	10/15/95	\$850,000
Land Acquisition	04/01/97	870,000
MWPAT Landfill Capping	11/01/98	1,099,516
MWPAT Septic Program	08/01/99	200,000
Fire Station Construction	10/15/00	2,250,000
Total bonds and notes payable		\$4,419,516

Map 17: Capital Facilities Map



Debt Service Requirements

The following table sets forth the required principal and interest payments on outstanding general obligation bonds of the Town of Eastham, as of June 30, 2001.

Table 25: General Obligation Bonds Debt Service Requirements as of June 30, 2001

Fiscal Year Ending 6/30/01	Principal	Interest	Total
2002	\$488,157	\$241,912	\$730,069
2003	489,549	219,233	708,782
2004	491,035	196,706	687,741
2005	492,520	174,067	666,587
2006	494,098	151,040	645,138
Thereafter	2,814,157	673,870	3,488,027
Total	\$5,269,516	\$1,656,828	\$6,926,344

Source: General Purpose Financial Statements Fiscal Year ended June 30, 2001

Authorized Unissued Debt and Prospective Financing

There is no authorized but unissued debt for the Town of Eastham. May 2002 ATM voted to borrow an additional \$200,000 from the WPAT to fund septic improvement loans to homeowners.

Overlapping Debt

The Town of Eastham is in Barnstable County, is a member of the Cape Cod Regional Transit Authority, and one of twelve members of the Cape Cod Regional Technical High School District. The following table sets forth the outstanding bonded debt, exclusive of temporary loans in anticipation of bonds or current revenue of Barnstable County, the Cape Cod Regional Transit Authority, the Nauset Regional School District and the Cape Cod Regional Technical High School District as of February 14, 2002, and the Town of Eastham's gross share of such debt and the fiscal dollar assessment for each.

Table 26: Outstanding Bonded Debt (with exclusions noted above)

Overlapping Entity	Outstanding Debt	Estimated Share	Dollar Assessment
Barnstable County	\$1,040,000	3.23%	\$157,598
Cape Cod Regional Transit Authority	0	0.68	5,241
Nauset Regional School District	15,015,000	22.94	2,940,624
Cape Cod Regional Technical High School District	0	2.94	177,422

Source: Final Official Statement, February 14, 2002

General Town Administration

Management Structure

The management structure of the Town is laid out in the Eastham Home Rule Charter. An appointed Town Administrator and a five member Board of Selectmen, elected at large for staggered three-year terms, form the executive branch of the government. The Town maintains an open town meeting as the legislative branch. In addition to appointed department heads, the charter identified an elected Town Clerk and Treasurer/Tax Collector, elected Board of Trustees to administer the Library, elected local and regional school committee members, and elected Housing Authority members. The Town Charter required that the moderator establish a Charter Review Committee in once every ten years or in any year ending in zero. In 2000, the moderator appointed such a charter review committee. They reported to the May 2000 Annual Town Meeting and several changes were adopted by that town meeting. The major change was to eliminate the elected Treasurer/Tax Collector position in favor of an appointed position. This and other changes are pending before the state legislature, which must approve any such charter changes.

General Town Facilities

The majority of critical town facilities are located in the area of Route 6 and Samoset Road. This area included the Police Station, Fire Station and the Town Hall, located on one parcel on the south side of Route 6. Directly opposite is the “windmill green” which functions as a town center for festivals and other events. The town recently added a “bandstand” to this area to complement the Windmill on this site. An antique style hand water pump and trough complete this picturesque setting. Two hundred feet along Samoset Road is the town library. Plans are under discussion to expand the library within the next ten years. The Town recently acquired the property next door to prepare for this expansion.

Town facilities are designed, expanded and improved in an effort to ensure that a sufficient level of service is maintained. One measure of level of service (LOS) is done by reviewing staffing levels or operational standards versus population. Table 27 below provides level of service measures for several areas.

Table 27: Current Levels of Service (LOS)

Category:	Year-Round: (population 5,652)	Summer: (pop. 25, to 30,000)
Fire	438 people/f-t fire fighter 13 f-t fire fighters (+on call)	1,923 people/f-t 13 f-t (+on call)
Police	257 people/officer equiv. 22 f-t officers	1,086 people/officer equiv. 16 f-t officers
Other Town Employees	3 per 250 dwelling units	(plus 7 summer)
Roads	55 miles (town owned)	
Number of vehicles	1.7 per 1 total dwelling unit	
Vehicle trips/day	10 per residential unit	
Transit:		
Council on Aging	432 round-trips/yr. (.097 trips/person/yr.)	
B-Bus	2,213 one way trips	
Solid Waste*	7 Tons per day	19 Tons per day=3,695/year
Recycled Waste*	0.9 Tons per day	2 Tons per day
Schools:		
Number of Classrooms	4 per 100 students	
School Personnel	5 per 100 students	
Library books/year	98,300 circulation/FY01	
Open Space	.89 acres/capita	

***Note:** The waste collected represents waste from individuals, commercial establishments of different types, and a part of the Cape Cod National Seashore. In the summer the population swells with visitors who stay at campgrounds, cottage colonies, motels/hotels, cottages and homes as owners or renters and guests of others. They may or may not eat in Eastham. Garbage created may or may not be deposited at the Eastham transfer station because some commercial establishments and others may have their garbage hauled out of town under private contract.

General Town Administration Staffing

The Town Hall provides office space for the following departments and their staff, as listed below:

Table 28: Employee Staffing (2002)

Department	Full-Time Staff	Part-Time Staff
Assessing	2	1 (19 hrs.)
Treasurer/Tax Collector	3	1 (19 hrs.)
Town Clerk	1	2 (38 hrs.)
Building**	1.5	1 (19 hrs.)
Health**	1.5	1 (19 hrs.)
Planning/Appeals	1	1 (19 hrs.)
Accounting	2	0
Administration***	3	0
Data Processing**	1	

Notes: * The May 2002 ATM approved an increase in one of the part time positions to create 2 full-time, and 1 part time

** Building and Health share one full-time clerical staff person. May 2002 ATM approved increase in part time position to full time. So the health department will have available one full clerical plus the shared services. Also approved is a full time MIS person.

*** One clerical staff member in this department also provides receptionist/switchboard duties

The town has been making use of a MIS consultant. Increasing computerization and implementation of a network to serve the new fire station and beach program, supported the change of this to a full time staff position. The 1996 Local Comprehensive Plan, mentioned the possible benefit of a Finance Department, but pointed out that the elected status of the treasurer/tax collector precluded that option. If the charter changes mentioned are implemented, this may be a more viable option in the near future. Currently the finance group works collectively as is appropriate.

General Administration - Equipment/Service

The primary goal of any government is to deliver the best, most cost-effective services to its citizens. Technology is one way to efficiently enhance service. Limitations of the Town Hall and Fire Station buildings precluded much improvement in this area. The completion of the renovations of both structures, the addition of a full time MIS person, and the recent decision to acquire high speed internet service for these buildings will support improvement in this area. The town has acquired software and new hardware if acquired as needed to maintain state of the art computer capabilities in all town departments.

The Police and Communications departments are housed in the police facility completed in 1989. The communications department handles both police and fire dispatching. The town investigated using regional dispatching services offered by the county as part of a transition to E911, and determined that the local dispatching effort was preferable at that time. Changes in the county dispatch capability may make it more feasible to join in the centralized dispatch. The communications department operates with one on duty person. The department has recording capabilities, and all staff is ASPCO and EMD certified. (This is the highest-level dispatch and medical assistance certification available.)

Table 29: Police Department Staffing (unchanged since the 1996 Plan)

Police Department:

Police Chief	1	Full-time
Lieutenant	1	Full-time
Sergeants	3	Full-time
Operations Supervisor	1	Full-time
Prosecutor	1	Full-time
Detective	1	Full-time
Patrolmen	9	Full-time
Part-time Officers	10	Year-round, Part-time
Summer Officers	5	Temporary, Seasonal

Communications Center:

Dispatchers	4
Dispatcher/Records Clerk	1
Dispatchers, Part-time	3

The Police Department and Communications Center are housed in a facility constructed in 1989-90. The building was occupied on May 10, 1990. It is in good condition and repair. It is located on approximately one acre of land and has sufficient parking for its current use. The facility was designed to accept internal growth but as any structure nears ten years, mechanical systems need review as well as space needs. This building will be examined to determine its ability to provide sufficient spaces for a department expected to add four personnel within the next 15 years. The facility has emergency power with a 100 KVA generator with instant auto start. The detention portion of the building consists of five cells: one juvenile detention, one female, and three cells for males. The facility also manages the fuel distribution for municipal vehicles that use unleaded gas.

The Police Department currently has the following vehicles:

- Seven 1998-2001 Crown Victoria police cruisers
- One 2002 Ford F350 four-wheel drive vehicle.
- One 1996 Ford Aerostar Animal Control van.

Each of the aforementioned vehicles is fully equipped with radios, etc. The Chief of Police and the Lieutenant also have radios in their private vehicles for emergencies. The department has issued police portable radios to all of the full-time officers and has several spare older radios for the summer and temporary staff. Recently the department added “Nextel” cell phone radios to assist in communication among senior staff.

The Eastham Police Department is a member of the Barnstable County Narcotics Task Force and is a signatory to mutual aid agreements with the towns of Orleans, Wellfleet, Brewster, Harwich and the United States National Park Service.

Fire Department

The Fire Department has 13 full-time fire fighters, a chief officer, and a clerk. All full-time emergency personnel are cross-trained in both fire suppression and emergency medical services. Call staff have the same level of certification as the full-time staff. The clerk provides necessary administrative support in addition to managing ambulance billing and collections.

Table 30: Fire Department Staffing

Fire Chief	1
Captain	1
Lieutenants	4
Fire fighters	8
Call Fire Fighters	4 (plus two to be added in FY 03)
Clerk	1

Equipment and Apparatus:

Two Class 1 ambulances licensed at the Advanced Life Support level

Two Class 1 pumpers, each with the capability of carrying 1,000 gallons of water plus all the necessary equipment for initial and sustained fireground operations

One sedan for the Chief’s use and for use as an incident command vehicle

One 4x4 pickup truck for off-road access, inspection work and for towing supplemental

equipment.

Avon motor-powered boat

Portable lighting/air cascade system

One sedan for use as an inspection vehicle.

The new station completed in 2001 will allow the town to acquire additional necessary fire suppression equipment. The first to be acquired will be a tanker/pumper. The May ATM appropriated \$85,000 towards this purpose.

Fiscal Resources

The Fire Department relies on its share of municipal funds, but as activity has increased, additional sources of funding have had to be developed. Eastham was the second community in Barnstable County to introduce billing for ambulance transports. This program has been ongoing for the last 12 years. The revenues assisted in the purchase of capital equipment such as replacement ambulances, Scott air packs, medical equipment upgrades and direct budgetary funding.

Future Fire Equipment & Manpower Needs

Today's modern Fire Service recognizes the need to provide top-level pre-hospital emergency medical care. This department's major contribution in the form of aid rendered is medical (approximately 80%), with the remainder being fire suppression and code management. Fire fighters and emergency medical technicians also face hazardous materials, which were non-existent or no source of concern during the early development of the department. Bio-medical hazards, such as HIV, TB, and Hepatitis B are now an everyday reality. Additionally the potential of terrorist acts presents a real hazard to the entire force. These facts, together with the demographics of the population and the distance to the hospital contribute to the need for more staff and more highly trained staff as the department moves into the twenty-first century.

Public Works

The Department of Public Works has three primary areas of responsibility: 1) solid waste and recycling; 2) road and town-owned parking lot repair and maintenance; and 3) limited groundskeeping, and building and facility maintenance duties. While all department staff assists in all areas as needed, the general structure of the department assigns staff as below:

Solid waste/recycling	3
Highway, grounds, building & facilities maintenance and repair	5
Shared clerical services	40%

The town owns the following equipment:

Item	Year Purchased
444 Loader	1998
5400 Tractor	1996
Street Sweeper	1995
1-Ton Dump Truck	1994
1-Ton Dump Truck	1995
Basin Cleaner	1996
2, 6 to 8-yard Dump Trucks	1989
1 Roadside Mower	1973
Mich. Loader	1990

Solid waste is handled at a town-owned transfer station located at 555 Old Orchard Road. The transfer station was opened in 1989 and includes a recycling facility currently handling glass, cans, newspapers, plastic milk jugs, metal goods, demolition debris, and yard waste, waste oil and recyclable goods. A redesign of the facility to accommodate a greater variety of recyclable materials, improve traffic flow, and upgrade major equipment such as the scales, is currently underway. Funding may be sought in the fall of 2002.

Road maintenance and repair is funded by Chapter 90 money and town funds. The town uses gravel brought from its own sand pits located on Old Orchard Road to repair non-asphalt roads. Asphalt road repairs are eligible for Chapter 90 reimbursement. Oil and sand road repairs rely on town funding.

The DPW equipment needs are a major part of the annual capital expenditures, and while the department continues to rent equipment and operators as needed, all town owned equipment is current and kept in good repair, and replaced as needed.

Natural Resources

The Natural Resources Department provides management of the various environmental services of the Town including shellfisheries protection and propagation, herring runs, harbors and landings facilities and activities, Conservation Commission administration and open space land management. Recently, shellfish propagation activity was enlarged with the addition of a shellfish hatchery and training facility at Hemenway Landing. Both long-term seasonal staffers work in this facility. Additionally, the department is staffed year-round with four full-time personnel: 2 long term seasonal and 3 short-term seasonal assistant Natural Resources Officers. A clerk provides administrative support for this department and the DPW at 60% full time equivalent.

The equipment utilized in this department includes:

- Four four-wheel drive pickup trucks
- Two outboard patrol vessel
- Two outboard work skiffs
- Various outboard motors, pumps, navigation and communications electronics, computers and laboratory equipment.

The department is supported through the general fund appropriation. Fees collected for shellfish permits, dockage and moorings are also returned to the General Fund. Shellfish permit fees are variable from year to year due to the variability of shellfish stock. Fees collected by the Conservation Commission associated with wetlands projects are reserved and used for the administration of the wetlands statutes.

The department is housed in a facility shared with the Department of Public Works on Old Orchard Road. This building was renovated and expanded in 1990. The addition of a staff person however, has raised the question of the department's need for more space.

Capital improvements relate to maintenance and replacement of vessels and equipment, which are exposed to salt water environments on a regular basis. Shellfish propagation methods are evolving and being developed constantly as new methods are utilized and developed.

Educational programs are conducted both informally through visitor contacts and informational brochures and publications as well as formally through various school programs and lectures.

The staff of this department addresses a continuous variety of activity and interaction with the public. Whether the question is about public shellfish programs, aquaculture, beach erosion, boating safety, marine mammal strandings, or other natural resource matters, our goal is to protect the resources by helping humans who live or visit here appreciate the gifts that Eastham has to offer without destroying the very beauty that they provide.

Transportation

Route 6 traffic volume and speed is a major concern of Eastham. The town has worked with Mass Highway to increase enforcement of speed and other traffic laws. Further the state has reduced the speed limit on Route 6 to 40 mph throughout. Continuing work is focused on incorporating changes to reduce the number of conflicts with access and adjusting land use in the Town to eliminate the need for additional through lanes. The state has recently bid out work to make several intersection improvements along Route 6. This work will include signalization changes, pedestrian walk lights, bicycle crossing lights and new lane paint. Additional major work is planned at the intersection of Governor Prentice and Route 6. This will include "lowering" the roadway to improve sight distances for traffic exiting the south side of Governor Prentice.

Roadway maintenance is a major program requiring substantial and continued investment. Pavement management has been identified as the largest unmet capital need of the community. The Cape Cod Commission study, entitled Pilot Network Level Pavement Management Study, Eastham, Massachusetts, conducted in 1991, warns of a current need for one million dollars (\$1,000,000) to address an accrued need and the annual investment of two hundred thousand dollars (\$200,000) for direct roadway maintenance. The town however has been able to manage with the use of Chapter 90 town funds. The condition of the major roads in Eastham is excellent. Secondary roads are well maintained by town staff. The department has a plan to upgrade pavement surfaces on town owned roads to asphalt. This plan parallels the 1991 Management studies. Please see the Transportation section of the Local Comprehensive Plan for a detailed description of current conditions and projected future improvements and expansion.

Capital Improvements

The town has a five-year Capital Improvements Plan with single-year targets and funding sources identified. Education and septage treatment facilities are addressed by regional agreements. Separate from these regional programs, the major local projects address the departmental needs of all town departments. The absence of several major services (water and sewer) means that a smaller than normal capital investment level has been required. However, groundwater issues have created some limited discussion of a municipal water supply, particularly in the area of the landfill and along Route 6 where nitrate levels continue to increase. Please see the Water Resources section of the Local Comprehensive Plan for a detailed description of existing conditions and potential well sites, as well as analysis and recommendations. See also "Water Resources" in the Implementation section.

Because of the limited amount of vacant developable land and the limitations imposed by the existing zoning, there are few opportunities for large or intensive developments necessitating capital additions; however, the cumulative impacts of smaller developments will likely necessitate improvement in infrastructure and increased services over time. An alternative to the provision of additional infrastructure and facilities would be the implementation of a program to reduce growth potential. This alternative is viable given the Town's stated determination to maintain community character.

Review and Update of Capital Improvements Plan

The Eastham Charter requires a five-year capital plan be presented each year to Town Meeting. This plan sets priorities regarding: repair, remodeling, renovation, or replacement of obsolete or worn out facilities and equipment which contribute to achieving or maintaining standards for levels of service adopted in the Local Comprehensive Plan. New or expanded facilities that reduce or eliminate deficiencies in levels of service for existing demand and, new or expanded facilities that ensure the adopted levels of service for new development and redevelopment during the next five fiscal years are identified through the five year Capital Improvement Plan and Planning Board, Board of Health and Conservation regulations.

While no new facility locations are included in the current plan, expansions of existing facilities are noted, specifically the Library and DPW Buildings. The town in the Capital Plan process estimates the cost of improvements for which the town has fiscal responsibility and analyzes the fiscal capability of the town to fund the improvements necessary to achieve or maintain the adopted levels of service. In addition the town identifies potential funding sources for all anticipated future capital improvements. In addition to construction costs the Town tries to assess subsequent annual operating and maintenance costs of a facility, prior to construction.

The Capital Improvements Plan is reviewed and updated annually in conjunction with the town's budget process. While not included as part of the plan text, items recommended for inclusion in the plan are reviewed and evaluated in the context of the following:

- A. Population projections,
- B. Existing inventory of public facilities,
- C. Existing operation cost of public facilities,
- D. Update of public facilities requirements analysis (actual levels of service compared to adopted standards),
- E. Financial and revenue forecasts,
- F. Sustainable financial capacity.

The Capital Improvements Plan for the Town of Eastham is included in the Local Comprehensive Plan by reference herein.

Recommended Town Actions:

- A. Participate with the Cape Cod Commission in developing a 20-year Regional Infrastructure and Facilities Plan.
- B. Continue the five-year capital improvement plan, as it is an effective tool to plan for acquisitions and to plan for funding those acquisitions while maintaining the fiscal health of the community, and ensuring that all town departments have adequate equipment and supplies to carry out their duties.
- C. Continue its practice of participating with others in investigation and data collection for surface water quality data such as Town Cove.
- D. Continue its practice of participating with others in investigation and data collection for sub surface water such as the USGS study.

- E. Continue to support local well water monitoring and data gathering programs such as the nitrate-testing program.
- F. Continue to press electric utility companies to underground service.
- G. Consider development of certain town owned parcels as industrial land to foster local industrial development.
- H. Continue to work with the state to ensure improvements to Route 6

See also "Capital Facilities & Infrastructure" in Implementation section.

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COMMUNITY FACILITIES - ENERGY

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established an overall planning goal and minimum performance standard for Energy. Eastham's goal and minimum performance standard are consistent with the Regional Policy Plan.

- 4.5 Goal:** To encourage energy conservation and improved energy efficiency, stimulate investment in energy conservation, renewable energy resources, and distributed generation, and manage land uses to maximize energy efficiency.

Minimum Performance Standards

- 4.5.1 New development shall be required to lay new utility lines underground for aesthetic reasons, safety, maintenance of a high degree of power reliability, and facilitation of the development of walkways and bikeways.
- 4.5.2 Energy-saving transportation activities including carpooling, mass transit programs, bicycling, and walking shall be encouraged as an alternative to automobile trips. Where feasible, historic footpaths shall be maintained and safe bicycle and walking links shall be created to establish an interconnected regional transportation system. Where feasible, bikeways and footpath connections between commercial and residential neighborhoods and between compatible uses shall be provided to create a safe alternative to travel on major roads.

Other Development Review Policies

- 4.5.3 Development and redevelopment should be designed to promote the efficient use of energy, including orienting structures to take advantage of solar gain and to maintain solar access for adjacent sites. Site design should protect and optimize the potential for the use of solar energy for heating and electricity.
- 4.5.4 Development and redevelopment should incorporate energy-efficiency measures that exceed state standards. Energy-efficient construction techniques and materials to be encouraged would include but not be limited to:
- Above-minimum R-values for insulation of walls, attics, and foundations;
 - Use of thermal-pane windows with low-emissivity coating with high R-values;
 - Annual fuel-usage efficiency ratings of at least 90% for all new heating systems; and
 - Use of segregated or on-demand water heaters.

Analysis

At the Eastham Special Town Meeting on November 16, 1998 the town voted to approve membership in the Cape Light Compact (CLC) and its Energy Efficiency Plan. The CLC, a consumer advocate for Cape Cod and Martha's Vineyard moved to find less expensive electric rates. CLC entered into a contract with Select Energy, Inc of Burlington, Connecticut. This contract would have saved Cape and Island consumers substantial sums off their electric bills. However, as the contract was about to be finalized the price of natural gas and oil suddenly reached all time highs and the contract had to be put on hold. Middle Eastern unrest and other factors were at the root cause of these energy increases. The Select Energy contract can go forward if there is a decline in oil and gas prices and tension stabilizes in the Middle East.

In the early spring of 2002 the CLC entered into a contract with Mirant Technologies to replace N'Star and to supply electricity to the Cape's so called, "Default Customers" who pay the highest rates. Usually the Default Customers are those on the lower end of income scale. The kilowatt rate reduction was 27%. 900 families in Eastham are benefiting from this reduction together with 40,000 users on the Cape and Martha's Vineyard.

Eastham Aquaculture Technology & Training Center through the efforts of Eastham's members on the CLC board of Governors has been successful in getting the operation off Default service, and on to the best electric rate available.

Eastham has been awarded an Energy Efficiency Program budget of \$49,936 by the CLC, for the year 2002. The Town of Eastham, private homeowners and commercial businesses in Eastham can use these funds. 26.6% of that budget has been utilized in Eastham through May 2002.

The permitting process is under way to place an Energy Wind Farm off Cape Cod in Nantucket Sound. If approved there would be 170 wind turbines installed that could produce enough electric energy for the entire Cape. This project would be a first in the USA and the largest sea base wind farm in the world. The project is controversial with many pro and con-qualified experts.

Implementation

Recommended Town Actions

- A. Work with the Cape Light Compact through its Compact representative on developing and promoting the Community Choice Power Supply Program, Energy Efficiency Program, and Distributed Generation Program.
- B. Enforce energy conservation standards for development and redevelopment.
- C. Consider providing incentives, to be developed by the Energy Committee, for the use of energy-conserving building improvements and renewable energy devices in all existing and new buildings, if cost effectiveness over the improvements' expected lifetimes can be demonstrated.
- D. Make municipal buildings, facilities, and street lighting more energy efficient. A percentage of the net monetary savings from conservation at municipal buildings should be invested in further energy improvements.
- E. Utilizing clean alternative fuels, such as propane gas Consolidated Natural Gas (CNG), super-oxygenated fuel additives such as ethanol and biodiesel, and electricity, for all new fleet vehicles and shuttle buses.
- F. Work with the Commission, Cape Light Compact, and other organizations to educate citizens about renewable energy and distributed generation through public demonstration projects.
- G. Establish a priority list of overhead utility lines and associated structures that should be installed underground for reasons of safety, enhancement of community character, heritage preservation, or restoration of scenic views.
- H. Record and document energy savings and set aside 50% of those proceeds for future development of new renewable sources.
- I. Work with the Cape Cod Home Builders Association to develop a plan to implement energy efficient building methods, procedures and products to be utilized in the construction of dwellings and substantial additions to existing dwellings.
- J. Establish an Energy Committee responsible for development procedures for the implementation of recommended town actions.

*See “Energy” and “Air Quality” in Implementation section

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COMMUNITY FACILITIES - HUMAN SERVICES

Town of Eastham Goals and Performance Standards

This section has been prepared by the Eastham Human Services Advisory Committee for incorporation into the Local Comprehensive Plan.

- 4.6 Goal:** It is the goal of the Human Services Advisory Committee to enhance the lives of all Eastham residents. The Town must continue to be a desirable place to live, to raise a family, and spend the later retirement years. The Protection of the environment and economic improvement of the Town and its inhabitants, especially meeting the needs of our citizens in financial and other difficulties, is essential. To that end support must be given to social agencies, volunteer services and strengthened Town programs.

Existing Conditions

According to the 2000 census there are 5,453 residents in 2,396 households. Six hundred and ten of these households were composed of persons living alone, and 568 households included children under 18. One hundred and twenty nine of the households with children were headed by single mothers. Another 44 households contained children living with other relatives than their own parents. The median age of Eastham residents is 47.6 years. There are 5,535 housing units in Eastham, according to the 2000 census, of which 2,893 are listed as seasonal, recreational or for occasional use.

Eastham has been jolted with many changes in the past ten years and the welfare, health and quality of life for our residents have been heavily impacted. These changes are actually the continuation of trends apparent in past years. By 1999 the conditions fostered by these patterns had reached the point where they could no longer be ignored. The town has been concerned with increases in population, loss of rural character, damaging traffic, protection of open space and our natural resources, the loss of young families, and insufficient affordable housing for young workers. The human service needs of our people add another dimension to the situation. While we speak here of the service needs, other sections of the Comprehensive Plan must deal with amelioration of the factors which contribute to problems facing our residents. Economic issues are pervasive.

The Eastham community has seen a large increase in the number of older retirees as permanent residents and of second homes owned by non residents, with a corresponding decrease in the number of households with children. The financial “good times” of the 90’s largely benefited those in the upper income levels, while creating additional pressures on residents with moderate and lower incomes. Their income has not kept up with the sharply rising cost of living. The erratic nature of employment in this area, especially related to the large seasonal cycle, whether in the service, retail, tourism, or fishing industry segments of the employment spectrum is an additional impact. Combining 2 or 3 part time jobs has often been the rule for survival for many

families on the outer cape. The decline of the fishing industry also took its toll; while carpenter and landscape work picked up; these jobs are also sporadic and offer few if any benefits.

The community has been seriously affected by the lack of affordable housing. Affluent times meant that many people were able to afford second homes, and enabled retirees, often those who had treasured annual vacations here, to choose the Cape and its lifestyle. As a result, build-out continued to increase, land and house prices escalated, putting home ownership out of reach for many. Rental housing also was lost as landlords were able to sell at top dollar to second home buyers, and rents increased reflecting the shortage. This situation is making it more difficult to recruit teachers, health professionals and others working in the public sector. Business also feels the pinch since housing is scarce for summer workers as well as full time staff.

At the same time, the cost of living continues to rise beyond average incomes. A statewide survey of what it costs to live, county by county, in 1997, found that it requires an annual income of \$35,890 to support a single parent with 2 children living on the outer cape. Basic expenses included are the cost of housing, child care, food, health care and transportation. For a 2 parent family with 2 children, the income needed was close to \$45,000. This requires a job earning around \$17.00 an hour for the 3 person family, and close to \$10 each for the 2 parent four person family. In 2002, 5 years later, the cost of living is even higher.

Taxes and utility costs continue to creep up. This affects our older residents, especially retirees on fixed incomes, as well as those families raising children. The income of two parents is now even more important to making ends meet. The pressures on the single parent dependent on one income are very heavy. A major expense is the cost of maintaining a car which is essential to employment and reaching other essential services. Some residents must choose between paying the electric bill or fixing the car. While there have been some improvements in public transportation, and more emphasis on the problem, reliance on personal cars is still necessary.

Health costs also have risen. The increased cost of prescription medicines and the escalating rates of health insurance have affected many families. Employers have had to drop such plans or raise the employees' contribution enormously. Dental care is beyond the reach of many, and, because all but one cape dentist refused to accept Medicaid benefits, was totally unavailable for children and others on Mass Health until the creation of the Ellen Jones Dental Clinic in Harwich in 2000. That clinic has had to close its waiting list and is vulnerable to the budget cuts in the wake of the economic downturn and state tax reductions.

The requests for help in finding housing continue to increase. Requests come from young families and also older residents who have lost their housing because it was sold to new owners. According to the 2000 census reports, about 50 rental units were lost while the growth in home ownership increased. A number of families are now seeking help with mortgage payments in order to keep their homes. When prices rise generally, illness strikes or the car dies, what was once an affordable mortgage payment becomes problematic. Requests have increased for emergency help with food and utility bills. The Eastham food pantry enables families to stretch the food budget and use available funds for other essentials.

Counseling and mental health services have always helped individuals and families with the stress and strains of daily life, including difficult relationships, children's adjustment problems, coping with illness, and the more serious episodes of mental illness and depression. Domestic violence is no stranger to Eastham, nor is drug and alcohol abuse. The 2000 Annual Report of the Police Department listed 53 service incidents related to domestic problems. The economic pressures and threat to housing add to the stresses for which our residents seek help. These problems are hidden from public view, and it is hoped that the new edition of the County of Barnstable study of The Human Condition will provide us with greater understanding of the extent of these problems.

Children

Slightly more than seventeen percent (17.3%) of the population is under 18 years of age, as compared to 20% in 1990. This is reflected in lower school enrollment, particularly in the early grades but can be seen moving up into middle and high school levels. As of January 2002 there are 265 children registered in the Eastham elementary school. The birthrate in Eastham continues below that of the late 80's and early 90's, and the young adult population is decreasing as well. Young families move out for more affordable homes; fewer young families can afford the rising housing costs and lack of rental opportunities.

Financial problems fall heavily on the child-raising generation. Twenty-four percent of the children attending Eastham elementary school qualify for free or reduced cost breakfast and lunch. Furthermore, one quarter of the households with children under 18 are single parent households. Family support services, helpful to all families, are especially needed by these families.

As noted, increases in the number of working mothers and the needs of single parent families means that child care has become a service of critical importance to the community. Day care, after school care and summer programs are high priorities.

Children's Place, opening in 1996 now provides day care for children from 16 months through 4 years with a sliding scale fee. Some state funded vouchers are available. More applicants could be served if there was enough space. Two of the 4 licensed family day care providers in Eastham were closed in 2001. Family care is the major resource for the youngest children and one of the closed programs was the only one which provided care from birth to 5. One of the closed programs was the only one which provided care from birth to 3 years. Care is least available and most expensive for that age group.

An after school program is operated at the elementary school by the Eastham Committee on Early Childhood. Because this program is dependent upon user fees of a constantly shifting parental group for continuity and stability, it faces many difficulties.

While there is a town-operated recreation program at the high school for mornings only, there is now no organized summer program for school age children available for working parents.

Several new and innovative programs are now available for Eastham families. Children's Place has received state and federal grants for valued parent support programming, including education for childbirth, home visits and a variety of discussion and support groups. Children's Place also provides a comprehensive referral service for families. The organization also administers federal and state grant programs which provide vouchers for child care for eligible families, but more financial aid is needed.

An additional but limited resource for preschool care has been the development of the federally mandated program for integrated Preschool Programs for children with disabilities. These programs are also required to include children without disabilities so that a portion of the placements are also available for non-disabled children on a sliding scale fee basis. Children with disabilities are also eligible for necessary services from birth under the Early Intervention program. This is a very important program, especially since technology now enables the survival of more infants born with very serious disabilities.

Unfortunately the Head Start program for poverty level families which some Eastham children attended in Wellfleet has been closed. This federal program also provided these most at-risk families with such necessary supports as advocacy, health and nutrition services. Transportation issues make it very difficult for Eastham children to attend the nearest center in Brewster.

We are aware that there are families struggling with significant problems and in need of very special supports. An indication is the fact that some Eastham children are brought to the attention of the Department of Social Services upon suspicion of neglect or abuse. Thirty-eight children in Eastham were brought to the attention of authorities in 1996 and sixty children in 1997. The allegations in twenty-four cases in 1996 and in twenty-seven cases in 1997 were found to be verified upon investigation, although it should be realized that investigations can not always be completed within the time frame of an annual report. Often the investigation discloses substantial need for help, even when serious neglect or abuse cannot be proven.

The needs of our teen age youth require special attention. There are many concerns, including alienation from the community, the rise in violence in response to disputes, and the use of alcohol and drugs. In another generation, fist fights settled the score, but in today's climate weapons are more commonplace and a police officer is assigned to daily duty in our regional high school in Eastham. Along with carrying out law enforcement duties, the activities of this officer go beyond deterrence, but also provide a positive influence. Factors leading to antisocial youth behavior are varied, and include the effects of the media, the economic problems besetting families, family issues of alcohol and abuse.

Many constructive actions already have taken place in recent years. We have seen the Field of Dreams become a reality as a result of volunteer actions, and there is pride in the resulting growth of sports activities for children and youth. The town has created the position of Director of Recreation to oversee meeting the needs of the total population. The town has also supported the Juice Bar in Orleans which serves as a regional teen center. Our schools also provide a range of sports and other activities for youth.

Eastham is a small town of caring people and this is an important advantage in our efforts to help. Eastham must continue to use its resources to develop teen age programs within our town that use the energy and talents of this group in constructive activity. Mentoring is one example of a program which promotes one to one adult/youth relationships that can be effective in integrating youth into the life of the community. We recommend that a Children and Youth Council be formed with representation from both public and private groups serving children and youth and include as well interested individuals. Many organizations now offer activities for children and teens and their parents and such a Council could also play an important role in coordinating existing efforts, defining needs and gaps in service and developing greater awareness of opportunities.

The Elder Population

The number of residents over 65 continues to grow. While the decade between 1980 and 1990 saw a 51% increase, the trend continues, but is less dramatic. The major increase has been in the proportion of residents 75 and older. There was a 44% increase between 1990 and 2000. . There are now 629 residents in that group, compared to 354 in 1990. The median age is now 47.6, as compared to 41.7 in 1990. We note also that 12.4 % of Eastham households are composed of residents 65 and over who are living alone.

The presence of this large retirement age group in Eastham is of great benefit to the town.: Our older residents bring varied life experiences and skills and the desire to share their expertise with the town. This extensive volunteer “workforce” is indispensable and in fact makes us strong. At the same time we must plan for the effects of age and frailty as life progresses.

Our Council on Aging provides a wealth of activities to meet varied interests and to stimulate our older residents as well as offering a social connecting point. There is a program to meet every interest- and as interests grow, so does the program! Elder Services of Cape Cod, the channel for federal programming for older Americans, offers major supports, particularly the nutrition program through the auspices of the COA. Other not-for profit groups such as Legal Services, Sight Loss and the Council on Alcoholism meet with our residents monthly at the Council’s Center. In addition Consumers Assistance provides printed information on wise buying, avoiding fraud and scams, and has an information line available on a daily basis. Of particular interest is the Social Day Program for those who need this opportunity for socialization, and for those whose activity is limited by physical or other problems.

The Council on Aging also assists with one of the major needs of our residents, whether elderly or not, and helps connect those requiring home care for temporary or longer times with home helpers. Restrictive regulations imposed on medicare services has limited the availability of such care seriously and the cost of help provided through private agencies is prohibitive expensive for many. This need for personal care assistance, chore service, house maintenance and even nursing care will increase particularly as the over 75 population grows larger.

Social isolation is becoming a greater issue for the elderly. As noted earlier, almost 300 residents age 65 and over live alone. Isolation occurs even when people live in households with others. Both physical care and mental acuity suffer, and depression can overtake the person. Obviously

safety is a big concern. However, the lack of transportation makes it impossible for the isolated to attend the stimulating programs that are offered at the Senior Center. Many elderly continue to drive even though their ability to do so safely has decreased. This is an area for town attention. Recommendations have been made for the development of a volunteer escort service, similar to the Meals on Wheels program.

Transportation continues to be a major problem for the elderly, especially because we live in a semi-rural area where public transportation is essentially limited to bus routes on Rte 6 from Provincetown to Hyannis 2 or 3 times a day. The B-bus is very helpful, but there are problems with scheduling and frequency of service. Fortunately some improvements have meant that it is possible to get shuttle service from the Plymouth Brockton bus to the hospital in Hyannis, and there are newer efforts to join the towns in a limited service to hospital appointments in Boston. There is hope for the future in the Transportation Task Force plans announced in the fall of 2000. In the meantime, local effort to meet local needs must be expanded.

Health care is also a paramount issue for the elderly, made more complicated by the need for transportation and the increasing cost. We can expect an increase in problems as retirement programs increase co-payments and even drop medical benefits from their plans. HMOS continue to either increase monthly premiums, or leave the cap altogether. The exorbitant cost of prescription drugs places many in a crisis situation and particularly affects the elderly.

Many financial issues impact the elderly in their retirement years. Rising costs including food, medicine, taxes, transportation play havoc with financial plans that were solid when first made. Tax abatement provisions are very helpful, but don't meet all problems. Some of our older retirees are living on limited social security benefits alone. There comes a time when cutting back is impossible, and there is no way to meet emergencies. It is time for the town to work with the Council on Aging and its outreach program to determine, if possible, the extent of the problems in this area.

As our over 75 population grows, we will need to give even greater attention and resources in the future. Related to this issue is the perceived need for housing which would enable the elderly to remain in Eastham, retain interests and friends, yet reduce expenses, and provide some protections, or assistance as needed. We recommend that the feasibility for such a facility be seriously studied

Health Care

Lack of medical insurance, underinsurance, and /or inability to keep up insurance payments leads to the patient's reluctance to seek timely service. Indeed most insurance does not cover preventive services, and comes into force only when there is a clear diagnosis and even then may pay only a portion of the charges. We now read of 20% or more premium increases required of employers providing health benefits and even higher for individuals seeking their own coverage. For families it can amount to hundreds of dollars monthly, so we can expect an ever growing population without insurance. The town can't fix this, but could begin to take stock of what the residents need and consider the possibility of appropriate public health preventive measures.

The Eastham Rescue Squad provides efficient, competent and sympathetic service to our residents in emergencies. They also respond to requests for blood pressure monitoring and first aid. The question arises to what extent emergency visits to Hyannis could be avoided if affordable routine health care was available.

The adequacy of health care has been touched on throughout this report. Important steps have begun to be taken on a state wide basis to help assure that there is access to health care for all citizens. Mass Health is now available to almost all children of low and moderate income levels, through a sliding scale premium provision. There is also an important state Elder Pharmacy Program for those eligible. In addition a special grant has enabled the development of the Healthy Connections Program which helps connect residents to insurances as well as other forms of assistance. The major success story of the decade has been in the opening of the dental clinic in Harwich, described earlier. Currently some medical professionals also refuse to accept Mass Health patients. The CHNAP study undertaken 5 years ago clearly disclosed the problems facing the poor and uninsured. Implementation is slow, but does move ahead.

There has always been great need for more physicians in the lower cape. There has been an increase in more local resources in recent years. Cape Cod Healthcare has purchased the former Medcenter Five building in Harwich and it now houses medical offices, including some specialties and lab services, thus eliminating the long trip to Hyannis. However these services are available to the insured and private paying population only. The Outer Cape Health Services has now opened an office in Orleans in addition to the office in Wellfleet which serves many Eastham residents. Outer Cape Health Service turns no one away and provides medical attention regardless of ability to pay. It is in the process of expanding the Orleans office. This can be a major affordable resource for all Eastham residents as well as the uninsured and Mass Health patient. Outer Cape is also developing a specialized geriatric service. Town assistance to help defray the cost of service to Eastham residents above what is available through the state free care pool is recommended.

Transportation

This continues to be a major problem for all residents, because we live in a semi-rural area where public transportation is limited to bus routes on Rte 6 from Provincetown to Hyannis several times a day. The B-bus is very helpful, but there are problems with scheduling and frequency of service. Fortunately some improvements have made it possible to get shuttle service from the Plymouth Brockton bus to the hospital in Hyannis, and there are newer efforts to join the towns in a limited service to hospital appointments in Boston. There is hope for the future in the Transportation Task Force plans announced in the fall of 2000. In the meantime, local effort to meet local needs must be expanded.

Availability of Human Services

Agencies funded fully or partially through the Town of Eastham as of 2001:

Eastham Rescue Squad - funded through the Eastham Fire Department, the Rescue Squad provides prompt, competent and sympathetic services in case of medical emergency, including transportation to Cape Cod Hospital.

Eastham Council on Aging - funded through the Town budget, The Eastham Council maintains a variety of social programming and services and provides transportation vans. A specialized Day Program is also available for elderly in need.

The Recreation Commission - the Commission oversees a Day Camp during the summer months and a year-round athletic program for children and youth.

Eastham Elementary School and Nauset Regional School District

Eastham Health Agent and Board of Health

Eastham Library

Visiting Nurses Association

Agencies providing services through Town contracts for partial funding as of 2001

Bayview Associates (formerly Lower Cape Human Services) - provides clinical treatment to children and adults with mental health and personal adjustment problems.

Cape Cod Council on Alcoholism and Drug Dependence - provides counseling and a drop-in center, with an emphasis on services for needy clients.

Cape Cod Children's Place - provides day care for children from ages 2 to 5, and offers other family support services and referrals.

Cape Cod Human Services - Provides counseling and other mental health services for children and adults.

Consumers Assistance Council - provides information and assistance in dealing with fraud and other consumer problems, as an outreach program of the State Attorney General's office.

Eastham Committee for Early Childhood - provides after-school programs for Eastham children.

Independence House - provides crisis intervention, emergency shelter, counseling and advocacy for battered women and their children, and for victims of sexual abuse

Interfaith Council for the Homeless of Lower Cape Cod - provides advocacy and counseling to homeless individuals and families and those threatened with losing their homes.

Legal Services of Cape Cod and the Islands - provides free legal advice and representation on significant civil law (non-criminal) issues to low income individuals of all ages, and to the elderly without income limitations.

Lower Cape Outreach Council - provides emergency aid of food, clothing and help with rent payments, etc. to individuals and families in financial crisis.

Mass Appeal - provides a free clothing shop and referral services, and sponsors Project Serve, a food program at nominal cost.

Nauset Inc. - operates a sheltered workshop providing job training and placement for developmentally disabled individuals aged 22 years and older.

Provincetown AIDS Support Group - provides support services, including counseling, meals, housing advocacy, etc. for AIDS patients and their families.

Sight Loss Services - assists individuals of all ages coping with gradual losses of sight. Provides information support, adaptive aids and instruction to enable clients to remain independent and in their own homes.

Other human services (without Town funding) are available to Eastham residents. For a comprehensive list of organizations available to Lower Cape residents see Directory of Preventive Services, issued by the Lower/Outer Cape Health and Human Services Coalition.

Implementation

Recommended Town Actions

The Eastham Human Services Committee recommends the following:

- Agencies providing Human Services should report to the town annually concerning changing needs.
- The Human Services Advisory Committee should continue to interview agency representatives on needs of town residents served, and survey town officials, school program administrators and other organizations' leaders for information on human service needs.
- The Town should form a Children's/Youth Council to address needs for service and to help to coordinate existing and future programs.
- Provision of additional day care and summer programming for children and youth.
- Development of a consistent and adequately funded base to assure stability for after school programs.
- Focus on outreach to the elderly isolated residents and mechanisms to bring them into community activities.
- Support for both sufficient preventive and acute care medical services for Eastham residents with special attention to the needs of the uninsured population.
- Support for organizations providing emergency assistance and active advocacy for families and individuals who are now homeless or are at risk of losing their homes or are now homeless.

The Advisory Committee recognizes the larger issues which impact our residents' welfare and quality of life, principally adequate affordable housing and transportation. These are addressed elsewhere in the Comprehensive Plan, and we add our voice to the plea for action to meet the urgency of these problems.

See "Human Services" in the Implementation Schedule.

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COMMUNITY FACILITIES - EASTHAM LIBRARY

Town of Eastham Goals

The purpose of the planning process is to help a library identify and analyze community and library needs, determine library service responses¹, and develop goals and objectives which address both short term and long-range needs. This plan was produced using Planning for Results: A Public Library Transformation Process (Ethel Himmel and William James Wilson; ALA, 1998), a planning guide for public libraries.

The Eastham Public Library has undertaken the planning process for the following reasons:

- To determine the best allocation of financial resources;
- To uncover community needs not currently being met;
- To establish goals and objectives for the next 3-5 years;
- To identify the library's current users;
- To develop methods to make potential users aware of the resources available to them.

The planning process was initiated on December 18, 2000 by the Board of Library Trustees and Sue Lederhouse, Library Director. On January 31, 2001 a group of citizens representing a broad cross-section of the community (see appendix A) were invited to participate in the first stage of the planning process. At that meeting participants were asked to choose the “service responses” (see appendix B) that they felt the library should work toward during the next six years. Three sub-groups created from this community-planning group met during the spring of 2001 to create an updated mission statement for the library and develop goals and objectives for the long-range plan. After the mission statement, goals and objectives had been developed, the library staff met to determine an action plan for 2002-2004.

The plan produced by this process is a revision of the earlier plan covering the period from 1997-2000 and will serve as a blueprint to guide library service development for the next 3-5 years. It will be reviewed and revised each year to keep pace with the need for new objectives as old ones are met, new needs develop and conditions change.

- 4.7 Goal:** The community will have an improved and expanded library, which will include a large flexible gathering space.
- 4.8 Goal:** Through the library, individuals and organizations will have the ability to give and receive information about community services, organizations, events, activities and needs.
- 4.9 Goal:** Residents across all age groups will have a pleasant and inviting environment in which to meet and establish lifelong habits of library use.

¹ A Service Response is Awhat a library does for, or offers to, the public in an effort to meet a set of well-defined community needs.@ Planning for Results: The Guidebook, Himmel & Wilson, ALA, 1998, p. 54.

- 4.10 Goal:** Through library cooperation with local and other educational institutions, the community will have an appropriate learning environment that will meet the ever-increasing educational needs of its diverse population.
- 4.11 Goal:** Library users will have access to up-to-date technology, materials, equipment, and resources needed for research and study so that they can readily and efficiently access and retrieve print and electronic information.
- 4.12 Goal:** Through the library, the community will be able to utilize emerging technologies that provide access to local events, library programs, and current topics.

Existing Conditions

The Eastham Public Library was established in 1878 when Town Meeting appropriated \$175 to establish a Town Library. The first library was housed in a hall over George H. Clark's general store, which also served as the post office for the town. In 1891, the Village Improvement Society (VIS) was formed. The greatest ambition of this group was to have a permanent library building in the Town of Eastham. In 1897, William Henry Nickerson gave the land next to the Chapel in the Pines to the VIS to serve as the site for a Town Library. In 1898, the building was opened to the public under the conditions of an agreement by which the Library Trustees leased the building from the VIS for \$1/year. In 1903, the VIS signed over the lease to the Town for the sum of \$1. In tribute to the VIS, a sign still exists over the entrance to the library reading: AVIS Library 1897. In the fall of 1903, the building was raised and a basement added.

From 1906-1936, the library ran branches in North and South Eastham, mostly in residents' homes. These branches contained a few shelves of books and some magazines.

Electricity was added in 1927 but a toilet was not installed until 1934. An addition in 1961 doubled the usable space in the library. Several other improvements such as an additional toilet, a paved parking lot, the creation of workspace, and a children's room in the basement took place in intervening years. These improvements substantially increased the building size.

By 1985, the year-round population of Eastham had more than tripled since the 1961 expansion and library circulation had quadrupled. It was again time to expand. In May 1987, Town Meeting approved an appropriation of \$695,000 to fund an expansion and renovation of the library. The Proposition 2 1/2 exemption was subsequently approved by the voters and work began in June of that year. In July 1988, the renovated, expanded, present library of 8632 square feet designed by Gaffney Architects was opened to the public. The library has two floors with the lower level composed of children's room, board room, Eastham Historical Society archives, staff room, restroom, and storage and mechanical rooms. The upper level houses the adult fiction and non-fiction print and audiovisual collections, large print, reading room and reference/genealogy section as well as a staff workroom and restrooms.

The library is governed by an elected three-member Board of Library Trustees. The Board's authority is derived from Chapter 78, Sections 10 and 11 of the Massachusetts General Laws.

Section 11 states in part that “The board shall have the custody and management of the library...and of all property owned by the town relating thereto. All money raised or appropriated by the town for its support and maintenance shall be expended by the board, and all money or property which the town may receive by gift or bequest...shall be administered by the board...” The responsibilities of the Board of Library Trustees are also outlined in sections 3-8-9 and 3-8-10 of the Eastham Home Rule Charter adopted May 21, 1991. Responsibility for library management, collection development, and provision of library services to the public is delegated by the Board to the Director. The Director is appointed by and directly responsible to the Board and is an employee of the Town of Eastham.

The library in FY 02 had a staff of 3.8 FTE; up from the FY 96 figure of 3.5 FTE but still the lowest staffing of any Town library on the Cape with the exception of Truro.

The staff of the Eastham Public Library presently consists of three full-time staff members (the Director, Adult Services Librarian, and Youth Services Librarian) and two part-time staff members. The Adult Services Librarian is responsible for inter-library loan, reference, and automated services and acts in the absence of the Director. The Youth Services Librarian is responsible for all services to children and youth through high school. One part-time staff member is responsible for technical services; the other works on the circulation desk. The Director handles administrative matters, collection development, public relations, adult popular materials, and all other activities not previously mentioned.

The library is fortunate to have a corps of over 30 volunteers who assist at the circulation desk, shelve books, prepare new materials for circulation, file, prepare overdue notices and perform other related activities. It would be extremely difficult for the library to exist without their assistance. It is obvious, however, that volunteers cannot provide the same kind of consistency or range of service that additional trained staff could offer. This places a heavy burden on the existing staff. With static or diminished funding, the goal of providing a high level of service to an ever-increasing highly educated population is a constant challenge.

The 600+ member Friends of the Eastham Library also performs invaluable services which otherwise would not be available. They purchase subscriptions to periodicals, sponsor children’s programs, lease the library’s copier and create lovely gardens around the library.

The library is open 38 hours per week both winter and summer with a slight change in schedule from summer to winter. The library schedule is:

	Summer	Winter
Monday	10-4	closed
Tuesday	10-8	10-8
Wednesday	closed	10-4
Thursday	10-8	10-8
Friday	10-4	
Saturday	10-4	10-4
Sunday	closed	closed

Because of the lack of large meeting room facilities within the library, it has been impossible to do extensive programming. The Friends, however, have sponsored an annual "Love Your Library" day and book sale in conjunction with Valentine's Day. A monthly book discussion group led by the Adult Services Librarian and other special programs such as a writers' group, story hour and other children's programs are held in the conference room. Additional programs which require a larger space have been held at the Eastham United Methodist Church and at the Chapel in the Pines; a neighboring church. The Friends of the Library also sponsor an annual book/bake/plant sale to benefit the library and monthly programs on literary and cultural topics.

Mission Statement

The Eastham Public Library, established in 1878, is today a vital resource in a town whose population of approximately 5,453 quadruples during the summer months. The staff, volunteers, and library trustees strive to ensure a professional and friendly atmosphere, and to make the Library a dynamic center of the town of Eastham offering a common meeting ground for the diverse elements of the community. The Library provides both print and non-print materials through its collection and the CLAMS network, as well as wider access via current technology to resources and information. Additionally, recognizing the historical treasures of the area, the Library affords access to genealogical and local history materials in conjunction with the Eastham Historical Society.

In the next five years, the Eastham Public Library will continue to provide and expand upon current titles and topics in multiple formats. Students of all ages will experience a positive learning environment with services and materials available to facilitate their locating, evaluating, and use of information in support of both formal and informal education. For residents and visitors, the Library will serve as an information source for community services, agencies, organizations, and events. The Library will pursue plans to provide a large flexible gathering place for meetings, public discussions, and cultural activities. To meet the needs of its patrons, the Library will expand the range of up-to-date available technology and will intensify outreach efforts in order to broaden the base of citizens who utilize its services. The Library will continue to address the critical needs for increased space in all areas of the building in order to fulfill its mission.

Implementation

Recommended Town Actions

To meet the goals established in this section the Eastham Library should:

- A. Complete an assessment of current space, assessing and analyzing current space. Staff should keep a record of requests for meeting space that Library can and cannot fulfill.

- B. Develop a flexible meeting space that will accommodate at least 100 people by implementing the following activities:
- During 2002 and 2003 Trustees and library staff will plan steps to be taken toward a building expansion project and explore what other libraries have done during recent expansion projects.
 - Trustees and library director will initiate dialogue with the town administrator and other appropriate town officials regarding building expansion plans.
 - Trustees and library director will look into non-municipal funding that may be available for library expansion.
 - Trustees will initiate the process of forming a building committee.
- C. Develop expanded space to house a variety of materials in different formats.
- D. Establish cooperative efforts with the Eastham Historical Society and the Town of Eastham to provide improved access to, accommodation for, and the preservation of local historical and genealogical materials by implementing the following activities:
- Trustees and staff will continue to meet with the Eastham Historical Society regarding their needs, and involve them in space assessment and the planning process for building expansion.
 - Staff will involve the Eastham Historical Society in collection development in the areas of local history and genealogy.
 - The library director will conduct regular, organized meetings with archives staff/volunteers and will assist the Eastham Historical Society in finding a larger number of reliable volunteers to staff archives.
- E. Should make at least 5 new contacts with community organizations and services offering the library as a clearinghouse for information.
- F. Attain a 90% rate of patrons surveyed being aware that information about the community resources is available at the library.
- G. Conduct an assessment of current space and determine what changes can be made within existing space to improve the library environment.
- H. Provide a variety of spaces to serve the age groups represented within the community, with a particular emphasis on young adults, home schoolers and the physically/mentally challenged.

- I. Develop a list of local and other educational institutions by implementing the following:
- Staff will compile a list of local and other educational institutions using current knowledge and contacts, and local publications.
 - Staff assisted by volunteers will create a local resources file with contact names, addresses, telephone and fax numbers, and e-mail information, and develop a system to keep the file up-to-date.
 - Staff will continue contact with schools and families to maintain awareness of library potential for computer access and tutoring, homework center, acquisition of new reference materials, etc.
- J. Identify the diverse community groups within the population by implementing the following:
- Staff will compile a list of diverse community groups by brainstorming and by consulting with members of the Lower Cape CDC and other community agencies including schools, churches, professional groups, and government agencies.
 - Staff will contact organizations that do outreach, such as the Council on Aging and WIC.
 - From information gathered, staff will develop services.
- K. Develop, distribute and analyze a survey to identify the needs and priorities of these community groups by implementing the following:
- Staff, with help of Trustees and volunteers will develop a survey that will include questions on topics such as perceived space needs, library hours, library staffing, and technology.
 - Staff and volunteers will distribute the survey.
 - Survey will be analyzed with help of Friends, volunteers, and staff.
- L. Conduct annual evaluation of technological needs and resources by implementing the following activities: Ongoing
- Staff will continue to review use of equipment and software annually.
 - Staff will continue to analyze technological needs.
 - Staff will read reviews of new technology in magazines that focus on technology and in library literature.
 - Staff will review websites for content and authority and bookmark them if they seem to be potentially useful.
 - Staff will continually update Library website to include links to useful websites.

- M. The library should explore and utilize outreach opportunities via local media by conducting the following activities:
- With the help of Trustees, Friends of the Library and volunteers staff will hold discussions with newspapers, local magazines, Channel 8, and local radio stations.
 - Staff will continue to improve Library website, and advertise the website's features on cable station, print media, and radio stations.
 - Library Director will contact The Cape Codder to pursue their invitation to give us a monthly or bi-monthly column. Details of discussion will include how much space they will provide, what restrictions they may impose, etc. Library Director will also contact neighboring libraries (Wellfleet, Orleans) and ask them if they'd be interested in contributing to a newspaper column on a regular basis.
 - Trustees and Friends will educate the public on current sources of funding for the library.
- N. Should become a primary venue for events, programs, and current topics.

See "Eastham Library" in Implementation section

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AFFORDABLE HOUSING

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for affordable housing. Eastham's goals and minimum performance standards are consistent with the Regional Policy Plan.

- 5.1 Goal:** To promote the provision of fair, decent, safe, affordable housing for rental or purchase that meets the needs of present and future Eastham's residents. The Town shall seek to raise its affordable housing stock to 5% of all year-round units by the year 2005, 8% of all year-round units by 2010, and 10% of all year round units by 2015.

Minimum Performance Standards

- 5.1.1 Affordable housing shall be encouraged in all areas that are appropriate for residential and mixed-use residential and commercial development. Particular attention shall be given to locating affordable housing convenient to transportation corridors.

* Any of site units or lots under 5.1.2 and 5.1.3 shall be in Eastham.

* The type (ownership/rental), bedroom composition, and unit size of the affordable housing resulting from MPS 5.1.2 and 5.1.3 shall be consistent with the area's priority housing needs as determined by the County's Five Year Consolidated Housing Plan and the LCP.

* Prior to occupancy of the affordable units, the applicant shall demonstrate that the occupants are income-eligible as determined by the Commission for DRI's and by the Eastham Housing Authority for units created in non-DRI developments. The applicant will be required to use the methodology used for HUD Section 8 applicants in determining income eligibility.

* DRI's, residential and/or commercial construction, redevelopment, or subdivision development projects that result in the reduction of non-condemned residential units shall be prohibited, unless otherwise permitted by the Commission.

* Residential construction, redevelopment, of subdivision development projects resulting in dislocation of existing residential occupants shall be subject to the provisions of the federal Uniform Relocation Act.

- 5.1.2 Residential construction and redevelopment projects of ten (10) units or more shall provide at least 10% of the proposed units as affordable units. In lieu of providing such units on site, the applicant may satisfy these requirements by providing equivalent housing units off site through the purchase of existing units, redevelopment, new construction, or a contribution of land.
- 5.1.3 Residential subdivision plans of 10 lots or more shall provide at least 10% of the proposed lots as affordable housing sites. Unless developed by the applicant, such sites shall be contributed to Eastham Housing Authority or a non-profit Community Development Organization such as the Lower Cape Cod Community Development Corporation (LCCCDC). An applicant may also satisfy these requirements through one of the options specified in Section 5.1.2.
- 5.1.4 In lieu of providing such lots on site, an applicant may develop or contribute equivalent off-site lots(s), providing they are in Eastham, that possess the capability of supporting the designated number of affordable units
- 5.1.5 Prior to final review by the Planning Board and the Housing Authority, an applicant must demonstrate that off-site lots are buildable and/or units habitable. In the event that the off-site lots or units prove to be unsuitable for any reason, an acceptable alternate proposal as specified in 5.1.2 and 5.1.3 will be required.
- 5.1.6 All affordable housing units or lots resulting from compliance with Sections 5.1.2 and 5.1.3 shall be initiated upon the conveyance of any of the subdivision lots or the issuance of a building permit for any of the lots, whichever occurs first. The applicant shall notify the Planning Board and Housing Authority (or other designated department of entities) prior to conveyance of any lots and/or application for a building permit for any of the lots.
- 5.1.7 The development of on-site affordable housing shall be phased in at the same rate as the project's overall development plan.
- 5.1.8 The Eastham Housing Authority or the Lower Cape Cod CDC as a designated local agency may receive affordable housing contributions. Upon certification of this Local Comprehensive Plan, the Cape Cod Commission shall follow this guideline.
- 5.1.9 Affordable housing units created by this section shall remain affordable year-round through the use of resale deed restrictions or rental restrictions that require the units to remain affordable in perpetuity. Such restrictions shall be made known to the homebuyer or renter prior to the purchase/occupancy of the unit. The marketing of any such rental units shall be in a fair and affirmative manner.

- 5.1.10 Affordable housing units within market rate developments shall be integrated with the rest of the development and shall be compatible in design, appearance, construction and quality of materials with other units. The location of the affordable units and the construction specifications shall be approved by the Planning Board and Housing Authority (or other designated departments or entities) prior to the start of construction.
- 5.1.11 Affordable housing provided for purchase through the review process shall be made available to potential homebuyers through a lottery process incorporating an affirmative action plan.
- 5.1.12 For the purpose of calculating the 10% affordable housing contribution, all numbers shall be rounded to the nearest whole figure.

Other Development Review Policies

- 5.1.13 Residential construction, redevelopment, or subdivision development projects, which are entirely comprised of housing units that are affordable for households at or below the median income, may qualify for a waiver of the 10% affordable housing requirement.
- 5.1.14 Affordable housing should be provided as part of residential and mix-use residential and commercial development. Particular attention should be given to locating affordable housing in or near Growth/Activity Centers and Growth Incentive Zones and convenient to transportation corridors.
- 5.1.15 Preference regarding off-site compliance with the affordable housing requirement should be first for the use of existing structures, second for the construction of new units, and third for land offerings.

- 5.2 Goal:** To promote equal opportunity in housing and to give special consideration to meeting the housing needs of the most vulnerable segments of Eastham's population including, but not limited to: very low income (50% of median income), single female heads of household, racial minorities, people with AIDS, elderly, the homeless, disabled, and others with special needs.

Minimum Performance Standards

- 5.2.1 In all of its actions the Town shall work to prevent discrimination in housing because of race, color, creed, religion, sex, national origin, primary language, age, political affiliation, disability, sexual orientation or any other consideration prohibited by law, and shall not knowingly approve any development that so discriminates.
- 5.2.2 Residential construction and redevelopment projects shall provide at least 10% or one unit; whichever is greater, of the proposed units as legally handicapped accessible unit(s).

Other Development Review Policies

- 5.2.3 The use of the "visit-ability" program as a standard for increasing accessibility of residential units should be promoted as a means for ensuring simple access into any home and into the bathroom for occupants and visitors.

- 5.3 Goal:** To seek out, provide support and encourage the development of innovative strategies designed to address the housing needs of Eastham, with particular attention to the needs of low- and moderate-income renters.

Minimum Performance Standards

- 5.3.1 For commercial DRIs, the applicant shall provide an analysis of affordable housing needs generated by the project.
- 5.3.2 New development with a high need for seasonal workers shall make provisions for employee housing or assist in placing summer employees in housing designed specifically for summer use, such as cottages or accessory apartments.

Development Review Policies

- 5.3.3 Reuse of existing structures as a means for creating affordable housing should be supported and encouraged.
- 5.3.4 The development of assisted-living facilities, single-room occupancy, and other similar affordable housing types should be encouraged.
- 5.3.5 The use of HOME and Soft Second Loan funds should be encouraged.
- 5.4 Goal:** To develop and promote strategies, plans, policies, and actions which integrate the development of affordable housing with protection of Eastham's environment.

Minimum Performance Standards

- 5.4.1 Use of alternative septic technologies and alternative construction techniques in conjunction with the development of affordable housing should be encouraged and expanded.
- 5.4.2 Cumulative-loading analysis or other similar strategies which identify areas where there is adequate nitrogen capacity for development of affordable housing should be promoted.

Existing Conditions

In 2000, Eastham had a total of 5,535 housing units, of which only 2,396 were occupied year-round. There were 246 year round vacant units and 2893 seasonal units among Eastham's 5535 total units.

The median rent in Eastham was \$536.00 derived from 1990 Census figures. In 1999 a Cape Cod Study showed a countywide medium rent of \$1,050. The Cape Cod Commission reports that for 2001, the median sales price of a single-family home was \$219,850 Countywide and \$245,000 in Eastham. It is clear that increasing house cost in Eastham is at least equal to that of the County as a whole.

Prior to 1996 there were only 12 qualified units of affordable housing under the terms of 40B. These were 8 units of special needs housing located in Eastham but developed and managed by the Orleans Housing Authority before 1996. The residents have all been developmentally challenged. The other 4 units (The Fay Shook Apartments) were acquired by the town and donated to the Housing Authority and were the first units to be owned by that recently formed entity. Since then, the Housing Authority acquired additional 8 units through the CDC. The CDC has acquired a two 2 unit apartment and converted 5 units of a pre-existing cottage colony and continues to own and operate them as affordable rental units and 2 units have been built by Habitat with another in short term prospect through transfer of a surplus town owned house.

Chapter 40B of the Massachusetts General Laws was enacted to encourage the development of affordable housing in all communities in the Commonwealth. The act establishes a ten (10) percent threshold of the year-round housing stock to be affordable for low or moderate-income households. If this threshold is not met, a developer may seek waivers from local laws and regulations to create such housing. Based on Eastham's 2000 Census' 2,642 year-round housing stock, this threshold would be 264 affordable housing units. Because only 40 units (including the yet to be relocated house next to the library) currently qualify as affordable year-round housing stock, an additional 224 units are required to meet the threshold. Census figures determine that the need is primarily for rental units, in view of housing purchase costs and lagging family income for those of "moderate to low income."

The number of housing units increased greatly during the 1980's; going from 3,625 in 1980, to 4,863 in 1990. This thirty-four (34) percent increase, or 1,238 housing units, was on the average of one hundred (100) new housing units a year during that decade. Since 1990, new housing in Eastham has been at a much slower rate than the previous three decades. This decrease in new housing is in part due to the national recession experienced in 1991-92 and in part because of the limited developable land available in Eastham. There is little evidence to conclude that this new trend will not continue. Thus the more limited available housing stock with rising population demands, especially from retirees and seasonal owners, is expected to add increased pressure, appreciating costs.

Table 31: Total Housing Units in Eastham Since 1990

Through	1989	4,863
	1990	65
	1991	41
	1992	62
	1993	65
	1994	65
	1995-2000	379
	Total Units:	5,535

Source: 2000 U.S. Census and the Eastham Building Department

Eastham Housing Authority

The Eastham Housing Authority evolved from a consortium of Eastham, Wellfleet and Truro affordable housing committees. Article 4 of the 1987 Eastham's Town Meeting, approved the authority by-laws and, subsequently, established a Housing Authority. Questionnaires relative to housing need were sent out in the summer of 1990, and the Community Development Corporation of Lower Cape Cod commissioned a survey in February of 1993. The results, as well as those from an additional questionnaire presented at the May 1993 Town Meeting, confirmed the Town's recognition of a strong need for affordable rental housing for younger families with a preference for the use of existing housing.

In addition to the original four units, The Housing Authority acquired additional 8 units through the Lower Cape Cod (CDC). There are housing facilities in Eastham designed for the special needs population. These include 975 Massasoit Road which houses four developmentally disabled adults, and the Woodwind House, which currently houses eight residents and is run by the Massachusetts Department of Mental Health. The CDC has since acquired a 2 unit apartment, 5 units through acquisition and conversion of a cottage colony, Habitat has added 2 units and with other State qualified units, the prospective "library" house, the total number is 40 - some 1% of the year-round occupied housing stock. It is less than seven tenths of all housing that can be occupied year-round. Eastham's Chapter 40B is 1.44% of the year round housing stock (both occupied and vacant).

Several sites, both public and private, have been evaluated by the Housing Committee for their suitability for the development of affordable housing.

With rising land costs and fewer buildable lots, new construction of affordable housing is likeliest on town owned sites. The two such sites currently qualifying are the 11 acres recently acquired near Brackett Road and the buildable portion of about 10 acres on the 63 acres Roach site. The rest of that Roach acreage is precluded from development by environmental

constraints. Several existing structures have been evaluated for their suitability for affordable housing. All of the structures deemed suitable for conversion-required renovation and winterization (Cottage Colonies and various summer cottages).

Eastham is actively represented on the Barnstable County Home Consortium. Several of the Towns' residents were among the founders of the Lower Cape Cod Community Development Corporation (CDC). In 1992 the Lower Cape Cod CDC was formed to encourage and develop year-round rental and owner-occupied affordable housing as well as sustainable economic development. The recently formed Housing Land Trust for *Cape Cod* is Cape Wide and currently has no site prospected in Eastham although that could change.

Analysis

The need for affordable housing in Eastham, already great, is likely to expand given the median housing value, pay scales for young families, especially single parent families, and an increase in older residents whose fixed incomes do not coincide with the current or projected housing costs. In addition, social agencies operating on the Cape have estimated that the homeless or near homeless population segment is likely to grow (see Human Services section).

The year-round housing stock is primarily in good condition. Of the seasonal housing, some is investment property or is owned by landlords who intend to eventually retire to Eastham, while others are second homes for family's off-Cape.

Disincentives for development of affordable housing in Eastham include restriction in lot size to accommodate both water supply wells and septic systems, commitment of tracts of Town-owned land, conservation property, wetlands, and the remaining Town-owned parcels are of insufficient size to accommodate affordable housing, except for the two previously cited. The Cape Cod Habitat for Humanity affiliate has built houses in Eastham on public and privately donated land, which qualify as affordable housing. A Town by-law now permits accessory apartments for affordable housing, but thus far, none has been created.

Chapter 40B and various other programs, such as the Local Initiative Program have been established to encourage the production of affordable housing. An attempt to increase the stock of affordable housing in all communities in the Commonwealth is an objective of the Department of Housing and Community Development, and the Cape Cod Commission. In addition, meeting the 10% threshold and/or demonstrated efforts to meet this threshold may affect the ability of Eastham to receive certain State grants. Because Eastham has 1.44% of its housing that qualifies as affordable under Chapter 40B, a greater effort and commitment to meet this threshold should be demonstrated.

State financial assistance is available for "assisted living" with a 20% set-aside for low and moderate-income residents. This type of housing is currently the fastest growing segment of the housing market. Appropriate affordable housing strategies for Eastham, which satisfy overall goals, housing goals and related needs, are shown in table below.

Table 32: Appropriate Affordable Housing Strategies

Strategy	Advantages	Disadvantages
Securing existing units with deed restrictions	Does not alter community character	None
Coordination with a non-profit and/or limited dividend corporation to develop affordable housing	No municipal expenditure Housing may be less expensive because no profit is required. "Assisted living" can be provided	None
Increasing intensity	No municipal expenditure May be appropriate in selected areas	Alters yield, may require wastewater treatment plant and effect character of Town
Set-aside	No municipal expenditure can be tailored to need and area	Perception of effect on property values
Donate Town owned sites	No municipal expenditure	Increase demand for Town services without commensurate tax revenue
Density Bonus	No municipal expenditure	May increase density
Accessory Apartments Requires careful monitoring	No municipal expenditure	Increases activity in area
Shared/Congregate Housing	No municipal expenditure	Increases activity in area
Local Initiative Program (LIP)	Maintains Town input No financial subsidy	Requires increased and appropriate standards
Streamline Permit Process	Reduced administration time and cost for Town	Must be monitored carefully to assure compliance with all regulations
Modify Regulations	Very limited expenditure	Must be prepared so as to not adversely affect municipal services and environment.

Individually these strategies may not approach the threshold required by the State, but in combination they may.

Recommendations

The following recommendations are made in an effort to encourage and increase affordable housing opportunities in Eastham:

- A. Complete a local housing plan, based on MGL Chapter 40B, which utilizes and updates the local need assessment contained in this report, and details a program and quantifies the number of affordable housing units to be provided each year.
- B. Continue efforts to purchase existing housing units and secure affordability with deed restrictions. As with the four units purchased in 1993, rental or assistance with down payments and subsidized mortgage rates, or setting up a revolving fund for outright purchase to resell, would increase affordable housing opportunities.
- C. The Town should encourage the construction of affordable housing units by Habitat for Humanity and other non-profit and/or limited dividend corporations and seek modifications to state and federal affordable housing regulations.
- D. Utilize increased intensity, set-asides and density bonuses (all of, which are appropriate as means to encourage affordable housing) by reducing land and land development costs. Both increasing intensity and set-asides are accomplished by reducing dimensional requirements in the zoning. Set-asides require developers to reserve a certain percent of the units to be sold or rented as affordable. A density bonus can be awarded for the same benefit or for other public benefits such as a contribution to the Housing Authority or Recreation Commission. The Town should utilize these strategies in selected areas to help achieve its goal of ten percent of the year-round housing stock as affordable.
- E. Permit accessory apartments where appropriate lot size and environmental conditions allow. This type of housing is located within an owner-occupied primary residence and would provide additional affordable housing stock at comparatively little cost.
- F. Encourage shared or congregate housing to allow for dwellings to be occupied by more than one family. This type of housing is useful in meeting the needs of single parent households, the elderly, and others who choose to live cooperatively.
- H. Support the Local Initiative Program (LIP). This State program was established to provide cities and towns with an incentive to develop low- and moderate-income housing. The program allows for Town supported private development, which does not require direct state or federal financial assistance. All low and moderate-income housing units developed through the Local Initiative Program are "counted" toward a community's affordable housing stock under Chapter 40B.
- I. Streamline the permit process to allow simultaneous application and processing of permits. The computerization and simplification of forms creates a user-friendly approach to development and may be economical both for the Town and the applicant.

- J. Modify town regulations to provide incentives for developers of affordable housing. Any modification of regulations should be subject to conditions established in the regulations and should be reviewed on a project-by-project basis. A by-law should be considered to permit cluster units and allow affordable housing on 1/2 acre lots.

Recommended Town Actions

- A. Promote adoptions of growth management by-laws which include provisions specifically related to affordable housing. Such provisions could include but not be limited to exempting affordable housing from growth caps, setting aside a specific number of building permits for affordable housing, and creating incentives for the development of affordable housing.
- B. Promote adoption of zoning changes that allow mixed-use development, use of District of Critical Planning Concerns and changes in tax-assessment policies that foster the development of affordable housing.
- C. Support the recently established local affordable housing committee, in the development of a local housing policy reviewing, proposals, recommending actions, and maintaining communications with the Commission.
- D. Develop a local housing needs assessment that will be updated every three years.
- E. Inventory public and private land suitable for the development of affordable housing and coordinate with local housing and Land Bank committees to develop opportunities for joint housing and conservation projects. Factors that could be considered in the selection of such sites by the town should include proximity to existing water supplies, schools, services, proximity to existing developed areas, and environmental constraints. At a minimum, local housing and environmental advocates should be involved in the site selection process.
- F. Consider donating or leasing parcels of town-owned land for affordable housing.

See "Affordable Housing" and "Land Use" in Implementation section.

HERITAGE PRESERVATION/COMMUNITY CHARACTER

Town of Eastham Goals and Performance Standards

The Cape Cod Commission, through its Regional Policy Plan for Barnstable County, has established overall planning goals and minimum performance standards for heritage preservation/community character. Eastham's goals and performance standards are consistent with this Plan.

Goals and Policies

- 6.1 Goal:** To protect and preserve the important historic and cultural features of the Eastham landscape and environment that are the critical components of its heritage and economy.

Minimum Performance Standards

- 6.1.1 An historic structure's key character-defining features are to be preserved. Additional alterations to historic structures should be consistent with the building's architectural style and not diminish its historic and architectural significance. Removal or alterations of character-defining historic features should be avoided unless the Historical Commission determines that such removal or alteration will not have a significant negative impact on the integrity of the historic property, surrounding historic district, or otherwise distinctive neighborhood.
- 6.1.2 The distinguishing original features of an historic or cultural landscape shall be preserved. New development adjacent to or within historic or cultural landscapes shall be located to retain the distinctive qualities of such landscapes and designed to maintain the general scale and character-defining features of such landscapes.
- 6.1.3 Where development is proposed on or adjacent to known archaeology sites or sites with high archaeological sensitivity as identified by the Massachusetts Historical Commission or the Eastham Historical Commission during the review process, it shall be configured to maintain and/or enhance such resources where possible. A pre-development investigation of such sites shall be required early in the site planning process to serve as a guide for layout of the development. Archaeological sites determined eligible for listing in the National Register of Historic Places shall be preserved and protected from disturbance.
- 6.1.4 Historic buildings that may be slated for demolition or relocation should be preserved on site and reused or incorporated into the overall design of the project.

- 6.1.5 Cultural landscapes and archaeologically sensitive areas should be protected through conservation restrictions or preservation restrictions that ensure their long-term preservation.

6.2 Goal: To encourage redevelopment of existing structures as an alternative to new construction, and to ensure that development and redevelopment respects the traditions and distinctive character of Eastham consistent with Designing the Future to Honor the Past, Design Guidelines for Cape Cod, Technical Bulletin 96-001.

Minimum Performance Standards

- 6.2.1 Expansion or creation of strip development shall not be permitted.
- 6.2.2 New development proposed on town roads and Route 6 shall be sized such that it can be accommodated without significant changes to the existing character of the road. Any necessary structural improvements shall be consistent with the existing character of the road, unless the Commission and the Town deem alternatives to be appropriate.
- 6.2.3 New development proposed adjacent to scenic roads shall be designed to preserve distinctive features of the scenic road including tree canopy, stone walls, winding roads character, and scenic views.
- 6.2.4 New development adjacent to or within historic districts, village centers, cultural landscapes, historic properties or otherwise distinctive neighborhoods shall be designed to be consistent with the character of the area and to retain the distinctive features of the neighborhood. Elements of the distinctive area's character such as building mass and scale and roof shape, roof pitch, and proportions between doors and windows shall be maintained. Distinctive features of the area such as proximity to the street, views to water and/or landscapes, and significant open spaces shall be preserved.
- 6.2.5 For all new development in industrial or commercial areas, no individual structure shall exceed a footprint of 15,000 square feet unless it is fully screened or located within a Growth Incentive Zone. For redevelopment projects, expansion of existing buildings with individual footprint up to 50,000 square feet shall be permitted without full screening if the expansion occurs on previously developed impervious or landscaped areas. Full screening may be achieved through the use of traditionally scaled frontage buildings or a vegetated buffer at least 200 feet in depth. The method of screening shall be consistent with the character of the surrounding area and preserve the distinction between village centers and outlying areas. In all cases, where an individual structure exceeds a building footprint of 10,000 square feet, the massing facade, and roof configuration shall be varied in order to reduce the apparent mass of the building and shall include a minimum of 10 feet of set-back or projection in the facade footprint for every 50 feet of facade length.

- 6.2.6 In industrial parks or areas not visible from scenic or regional roadways or other distinctive areas noted above in 7.2.4, use of nontraditional material and forms may be appropriate. In such areas, maintenance of adequate buffers on subject property is required to ensure that the proposed development will not be visible from scenic or regional roadways such as Route 6A.
- 6.2.7 Redevelopment of existing strip development shall provide adequate buffers between parking areas and the street, and significant improvement to interior parking lot landscaping, as well as facade improvement and frontage building, as necessary, to improve the visual character of the site.
- 6.2.8 All development shall implement a landscape plan which addresses the functional aspect of landscaping, such as drainage, erosion prevention, wildlife enhancement, screening, and buffering, wind barriers, provision for shade, energy conservation, sound absorption, dust abatement and reduction of glare. When vegetative buffers are necessary to prevent impacts from new development on scenic resources, maintenance of existing vegetation shall be required in the buffer area. A maintenance agreement or irrigation, as appropriate, shall be provided.
- 6.2.9 Exterior lighting in new development or redevelopment shall comply with standards including design, light sources, total light cutoff and foot-candle levels defined in the Exterior Design Standards, Technical Bulletin 95-001.
- 6.2.10 The installation of billboards, offsite advertising (excepting approved directional signs) and internally lit or flashing signs shall not be permitted.
- 6.2.11 All utilities for development including cable shall be placed underground except where the presence of natural features such as wetlands or archaeological resources prevent such placement.

Other Development Review Policies

- 6.2.12 The integrity of natural landforms and broad, open views of the landscape as seen from any local, county or state-designated scenic roads and Route 6 should be maintained.
- 6.2.13 The planting of shade trees along roadways to improve the visual quality of the area is encouraged. Such trees should be tolerant of roadside conditions and a minimum of 3-inch caliper/diameter at breast height (4 feet above ground surface) at time of planting.
- 6.2.14 Distinguishing original features of a site such as trees of greater than 6" diameter at breast height, existing planting and topography should be preserved where possible. Plantings on the street-facing side of buildings, window boxes and planters are encouraged. Benches or other seating arrangements and walkways within the development and linking to other buildings should be provided where appropriate.

- 6.2.15 Traditional building materials such as wood shingles, clapboards and brick should be used for new construction and rehabilitation of existing structures.
- 6.2.16 In general, the size and color of all signs should be in scale and compatible with the surrounding buildings and street. When more than one sign is used, the graphics should be coordinated to present a unified image. Wooden signs, either painted or carved are usually most appropriate.
- 6.2.17 All exterior lighting should be part of the architectural and landscape design concept. Fixtures, standards and exposed accessories should be concealed or harmonious with other project design materials. Lights from fixtures should be pointed downward and contained on the property.
- 6.2.18 Underground placement of utility lines as part of any roadway improvement project is encouraged.

Existing Conditions

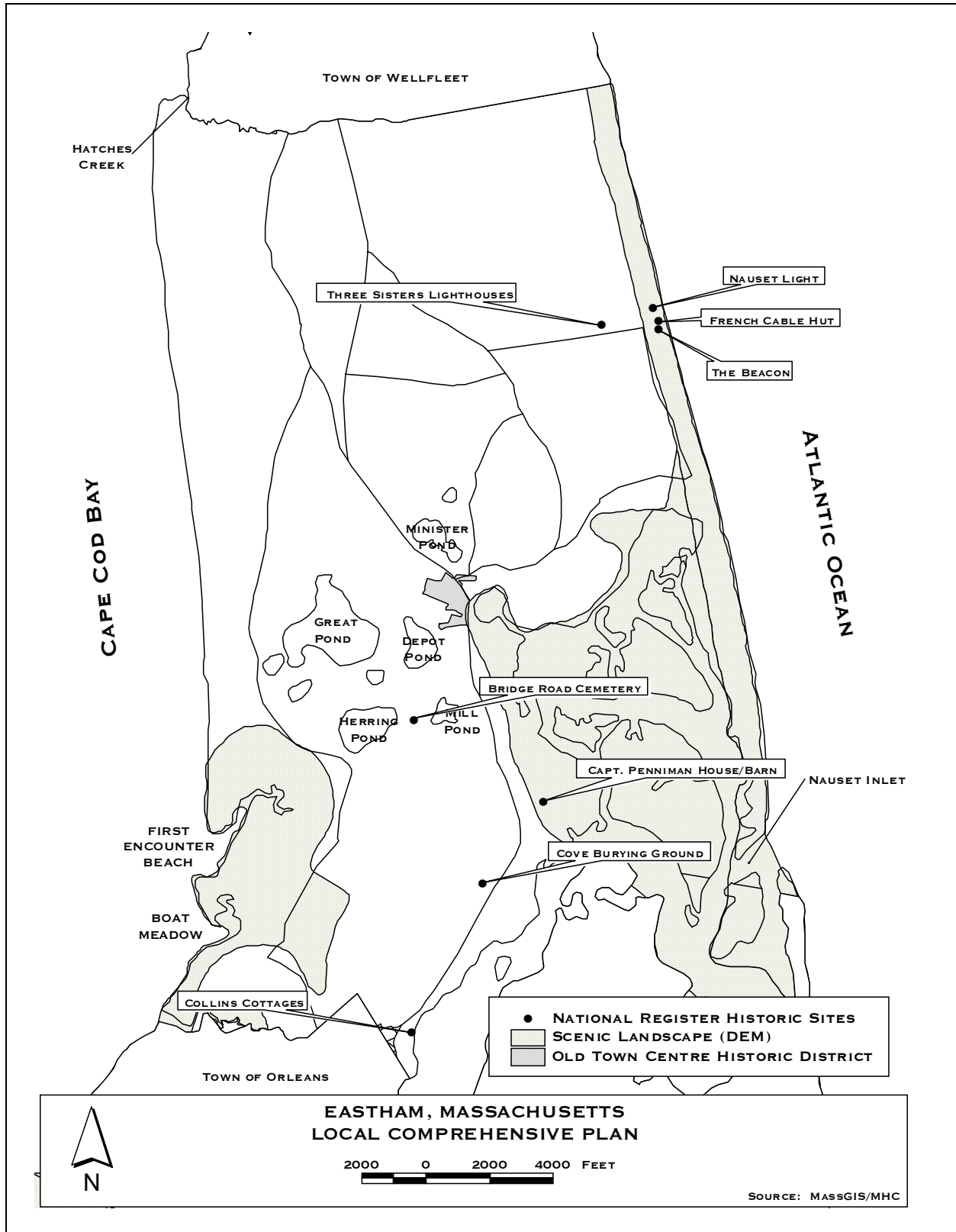
The character of Eastham is made up of significant historic sites, landscapes and buildings. Eastham's Atlantic coastline is preserved by the presence of the Cape Cod National Seashore. The bayside has pleasant summer homes, various Town landings and beaches, and Rock Harbor Marina in the south. The town's settlement pattern has traditionally been dispersed and focused primarily on agricultural and maritime pursuits. More populous areas were historically located to the north and south of Eastham's current borders. With the end of World War II and the rise of tourism in the region, Eastham's population has remained dispersed. Eastham has never developed a Town Center or village-style focal point. Route 6, which bisects the Town east/west, has become the single greatest threat to the semi-rural character, which exists, and is the foremost concern of those residing in the Town.

Historic Sites and Districts

Several sites and structures in Eastham are listed in the National Register of Historic Places including those within the boundaries of the Cape Cod National Seashore. These are: Nauset Archaeological District, which has been designated a National Landmark by the Secretary of the Interior. This designation automatically confers National Register status on these six sites which include three in the Salt Pond area, two at Fort Hill and one at Coast Guard Beach; Nauset Light; Nauset Light Keeper's House; and oil house; Beacon and Twin Sisters of Nauset Lighthouses; French Cable Hut.

The Old Town Centre Historic District is a local regulatory district approved by Town Meeting in 1986. The District Commission reviews all exterior buildings alterations, demolitions and new construction. The District consists of 25 properties and encompasses the west side of Route 6 in the vicinity of Salt Pond Road, Locust Road to Mill Road, and the east side of Route 6 along Nauset Road to Schoolhouse Road. It includes the 1869 Schoolhouse Museum owned by the Eastham Historical Society.

Map 18: Historic Preservation Map



Since approval of the Town's first local comprehensive plan several Eastham historic sites and districts have been added to the National Register of Historic Places as a result of grants obtained by the Eastham Historical Commission. The Old Town Centre Historic District is now listed in the National Register as well as its previous listing in the State Register.

The Eastham Center Historic District consists of 59 properties along the west side of Route 6, Samoset Road to Bridge Road, Depot Road to Samoset Road. Notable inclusions are the Windmill, Windmill-Green, Public Library, Chapel-in-the-Pines (Unitarian-Universalist), 1741 Swift-Daley House, owned by the Eastham Historical Society, and the Eastham Town Hall, the only property on the east side of Route 6.

Collins Cottages Historic District, 13 properties, is sited on town Cove at the entrance to Eastham. Cove Burying Ground, Eastham's first cemetery, is on the East Side of Route 6 near Pine Woods Road. Bridge Road Cemetery, second oldest, is west of Route 6 and south of Samoset Road. Both cemeteries are listed individually in the National Register.

The Fort Hill Rural Historic District encompasses 100 acres of field, forest, and salt marsh within the boundaries of the Cape Cod National Seashore. Located east of Route 6 the district includes the Captain Edward Penniman House and Barn, Sylvanus Knowles House, and Seth Knowles House.

The Massachusetts Historical Commission, in conformance with Federal guidelines, considers any structure at least 50 years old to have potential historic significance. Research conducted by the Eastham Historic Society and the Eastham Historic Commission has identified 221 structures in the Town meeting this definition.

A formal inventory of 100 properties was completed in 1995 and is on file at the Massachusetts Historical Commission. 28 properties were recommended for nomination to the National Register of Historic Places. The Massachusetts Historical Commission determined 16 to be eligible for listing. Six have since been listed.

The oldest church building in Eastham is the Chapel-in-the-Pines (Unitarian-Universalist) dating from 1889. It is individually eligible for listing in the National Register and is now listed there as a contributing building in the Eastham Center National Register District. A major financial sponsor of the Chapel's construction was Captain Edward Penniman whose house and barn at Fort Hill is a National Register property.

Scenic Landscapes

The *Massachusetts Landscape Inventory*, established by the Department of Environmental Management (DEM) to "identify and locate the Commonwealth's important natural features" including the salt marshes of Eastham in the Cape Cod Natural Seashore Unit. These marshes, primarily the Nauset marsh, are visible from the Fort Hill area, Seashore trails, and the old Coast Guard Station area at Coast Guard Beach.

There are several distinctive scenic areas, which can be viewed from Town-owned lands. These include the Lamont Smith and Louise Horton areas, the Fort Hill area looking out to Town Cove, Coast Guard Beach and Nauset Beach in Orleans, as well as to the salt marshes, the Cape Cod Rail Trail with views of several marsh and pond areas; Town Cove at Collins Landing as seen from Route 6; Boat Meadow landscape as seen traveling north on Bridge Road, all of the Town landings and beaches, and the Atlantic Ocean and Coast Guard Beach as seen traveling south on Ocean View Drive from Cable Road.

Culturally Significant Landscapes and Scenic Roads

Eastham's cemeteries are significant contributors to the historical character of its cultural landscape. The Cove Burying Ground (1660 - 1770), also the site of the Town's first church, contains the graves of three Mayflower passengers and many of the first settlers. The Bridge Road Cemetery (1754 - 1886), also the site of the Town's second church buried succeeding generations of the original residents. Both cemeteries are listed in the National Register of Historic Places. The Congregational and Soldiers Cemetery was established in 1829 when a new church was built on the King's Highway (now Route 6). The complete name derives from a Civil War Memorial erected on the grounds. A Methodist burial grounds and church were established in the early 1800's on the King's Highway and is now the Evergreen Cemetery.

The most popular culturally significant landscape in Eastham is the "Windmill Green" located on Route 6 and Samoset Road. The wind-driven gristmill is the oldest on Cape Cod and a favorite tourist attraction. It has been at its present site since 1808 and is listed in the National Register of Historic Places as a contributing structure to the Eastham Center Historic District.

Eastham is fortunate to have many scenic roads featuring combinations of tree-lined vistas, historic houses, ocean, pond and marsh views. The Eastham Historic Commission has compiled a list of scenic roads that include: Bridge, Cable, Dyer Prince, Fort Hill, Governor Prentice (east of Route 6), Great Pond, Hemenway, Herring Brook, Lawton, Locust, Massasoit, Nauset and Salt Pond Roads, Ocean View Drive, and Smith Lane.

Areas in Need of Improvement

Most of the areas identified as in need of improvement because of unattractive signage, inadequate landscaping and screening, and in need of pedestrian amenities are located on Route 6 from Old Orchard Road north to the Wellfleet Town line. Some areas are also located south of Nauset Road in the Town Hall area. National Seashore properties suffer from lack of funding for cultural resources and will continue to be in need of some renovation. While general conditions of the private structure inventory is considered to be satisfactory, there are some properties in need of general maintenance and repair.

A major and growing threat to the visual appeal of Eastham's scenic roads and traditional community character comes from the proliferation of overhead utility lines. Reflecting a combination of new construction, the advent of cable television service during the mid-1980s, and greatly increased demand for both electricity and telephone service, recent years have seen

the addition of many new utility poles along town roads and replacement of short poles with taller ones that are out of scale with both the local architecture and the landscape. Cable, transformers and other related equipment are also on the increase, creating visual pollution and intruding on the vistas of marshes, shorelines, ponds and historic buildings. An increasing number of mature trees are being mutilated to accommodate the new wires and cables.

Analysis

Existing Protections for Historic, Scenic and Cultural Resources

Properties within the Old Town Historic District are protected from inappropriate alteration and demolition. The Historic District Commission reviews new construction, reconstruction, alterations, movement and demolitions of all exterior architectural features of buildings and structures within the district visible from a public street, way or park.

Historic properties within the National Seashore are provided some protection through the use limitations of the Seashore District and through Park Service review of alterations to improved properties. Historic Properties listed on the State or National Register of Historic Places and outside municipal historic districts are provided protection through the Cape Cod Commission Act. These properties and sites can be protected from “substantial alteration” or demolition by Local Historical Commission or other agency referral to the Cape Cod Commission for review.

Current and Projected Threats to Community Character

Route 6 has long been Eastham’s “main street.” The community character of Eastham, however, has been threatened by commercial sprawl in the form of strip development along this route. Signage, building design, overhead utilities, and landscaping (or lack thereof) have contributed to a sense of suburban sprawl along this major thoroughfare. This “sprawl” detracts from the inherent nature of Eastham. Several measures were undertaken in the late 1980s, which have helped curb the further deterioration of this route through re-zoning and use limitations. However, traffic associated with the Seashore as well as with those traveling to and from Provincetown continues to pose a threat to the small-town character of Eastham. The formation of a plan addressing improvements to existing businesses, signage, landscaping, parking requirements, pedestrian flow and traffic safety along this vital route is necessary to mitigate current and projected community character concerns. See Transportation section.

The growing development of communications towers is also of concern as companies compete to expand service to Cape Cod. Regulations governing the location of cellular towers and other transmission facilities are necessary to limit impacts to environmental resources, important vistas and other areas with distinctive community character. Eastham has adopted a by-law limiting the location of cellular towers to town owned land.

In recent years serious concern has been expressed by Eastham residents over the construction of large-scale single-family homes and their impact on community character. Additionally, current owners of cottages on small lots close to Cape Cod Bay are applying for permits to make

substantial square footage upgrades that will impact community character. Responding to concerns from residents and other Town regulatory boards the Planning Board prepared a new zoning article for residential site plan review, which was approved by a special town meeting in 2001.

Current and Projected Threats to Historic Resources

Outside of the Town's Historic Districts, there is little protection afforded historic properties in Eastham. Current and projected threats to the historic inventory include property owner disinterest or financial inability to maintain a historic property, remodeling projects that destroy historic features, properties which fall into disrepair due to extended litigation, and new development in close proximity to a historic property and not in architectural congruence with it.

Strategies to Protect Identified Resources

Historic Districts are considered to afford the highest level of protection for historic properties. While the expansion of a current district is a future possibility, the creation of any new district is unlikely. Emphasis should be placed on the nomination of individual properties to the National Register of Historic Places in order to provide greater recognition of their significance and protection from substantial alteration or demolition under town by-law and the Cape Cod Commission Act.

A demolition delay by-law is in place that provides a procedure to forestall the immediate demolition of any structure of potential historic significance until a public hearing can be held to make a final determination, and, if appropriate, initiate action to preserve the structure. The by-law has been invoked successfully in its only two applications since its approval in 1996.

Signage, building design, landscaping, lighting, pedestrian circulation and parking requirements, accompanied by selective "undergrounding" of overhead utilities, are needed to facilitate protection of the Town's inherent character. Boards and Committees are addressing these issues along the Route 6 corridor and in other areas of Eastham. Site plan review and design review by-laws have been adopted to provide an opportunity for review of project impacts on historic resources and community character. Few applications under the new residential site plan review by-law have been reviewed by the Planning Board but there is agreement that the by-law will be effective in addressing community character concerns. Refer to the Land Use section for further consideration of these issues. Cape Cod Commission model by-laws and Technical Bulletin 96-001 "Designing the Future to Honor the Past, Design Guidelines for Cape Cod" should be consulted in addressing these issues.

Under the provisions of Massachusetts General Laws, Chapter 40, Section 15C designated Scenic Roads approved by Town Meeting action are protected against tree cutting and stonewall removal during repair or resurfacing activities carried out by the Town until approval is obtained from the Planning Board after a public hearing. While the Historic Commission has identified a number of scenic roads, none has been so designated by Town Meeting action. The Town should designate scenic roads and adopt regulations for administration of the Scenic Road Act.

The celebration in 2001 of Eastham's 350th anniversary as a town resulted in a significant increase in interaction and communication among town committees, Cape Cod National Seashore staff, and local community groups such as the Chamber of Commerce, Eastham Forum, Eastham Historical Society, and Nauset Light Preservation Society. Under the leadership of the 350th Anniversary Committee a yearlong series of historically oriented programs and events gave residents a heightened sense of their heritage and community character. The Town should continue to use this cooperative network for the purpose of developing information for all parties regarding opportunities to preserve historic properties and community character. Information regarding historic preservation restrictions and existing tax incentive programs that can encourage appropriate renovation and alteration of historic properties should be compiled and made available to interested individuals.

Implementation

Recommended Town Actions

- A. Continue to inventory its historic resources and, where appropriate, structures, landscapes or sites of historic significance should be protected through means such as individual nominations for listing in the National Register of Historic Places and subdivision regulations which provide for review of potential impacts to historic and archaeological resources.
- B. Establish a scenic road by-law with guidelines that preserve the character of roads already designated by the Historical Commission.
- C. Adopt a by-law which limits land clearing and alteration of natural topography prior to development review, as discussed in the Commission's Model Land Clearing, Grading and Protection of Specimen Trees By-law, and a landscape ordinance which protects existing trees and requires landscaping and screening of new development from major roads.
- D. Where feasible, actively encourage the undergrounding of existing utility lines and structures in locations where they detract from historic and cultural features, community character and scenic views.

See "Heritage Preservation/Community Character" and "Land Use" in Implementation Section.

IMPLEMENTATION

The Town of Eastham has many opportunities to enact measures to protect the quality of life and to achieve the vision of the Town. To reach this vision for the next twenty years, the Town through the Local Comprehensive Plan has articulated a series of goals, policies and plans. Measures to implement the plan have been selected, which are cost-effective and flexible enough to serve the present population of approximately 5,600 persons and a portion of the anticipated buildout population in the region.

The Implementation Table, on the following pages, includes suggested implementation measures, the actions required, the agency responsible, the priority of the action and estimated costs. In as far as practical, the measures selected and recommended in this Plan expand on existing Implementation Programs, Town Bylaws and Regulations. The program incorporates the recommendations of the various sections of this report and builds on the programs, bylaws and regulations in place. It requires limited expenditure and is cost-effective. To accomplish the proposals, a follow-up committee may be needed.

The contents of the Eastham Local Comprehensive Plan are advisory. The town is not mandated by law to carry out any recommendation contained in the Plan. If actions are regulatory or financial in content they must come before town meeting for a 2/3 vote. Other actions are left to the discretion of the participating boards or committees within the provisions of the open meeting law ensuring that all town residents will have fair access to their discussions as is now the case.

Implementation Schedule Key

Responsible Board(s)/Agent(s):

BOH = Board of Health
BOS= Board of Selectmen
BRD= Beach Recreation Department
Building Inspector = Building Inspector
ConCom = Conservation Committee
DPW = Public Works Department
FinCom = Finance Committee
HD = Health Department
HSC = Human Services Commission

Library = Library
NRO = Natural Resources Office
Planning Board = Planning Board
Open Space = Open Space Committee
Town Admin = Town Administrator
Town Meeting = Town Meeting
WRAB = Water Resources Advisory Board
Zoning Board = Zoning Board of Appeals

Key to Estimated Priorities:

1 – 2002-3
2 – 2003-4
3 – 2005+

Key to Costs to Town:

OB = Operating Budget
WA = Town Meeting Warrant Article
Grants = Potential Grant Funding

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
LAND USE/ GROWTH MANAGEMENT	Adjust zoning to accommodate recommendations of the land use plan, e.g., adopt a Highway Residential District and a Working Waterfront Overlay Zone.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Amend the zoning bylaws to allow for mixed-use developments in the Highway-Residential District.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Augment performance standards, e.g. for lighting, noise, and odors by revising the zoning bylaws.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
	Amend the zoning bylaws to add language on curb cut control and develop a comprehensive curb cut strategy to Route 6.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Revise the zoning bylaws for building and parking setback and landscaping requirements for commercial developments.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
	Study the possibility of working with N/Star and the state and consider funding of undergrounding of utility lines along town roads or on town-owned land in any area where the required poles, wires, cables, aerial transformers and other related electrical and telecommunications equipment are deemed visually intrusive and/or a safety hazard.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Revise and reformat the Zoning bylaws and develop a Table of Use Regulations and a Table of Dimensional Requirements.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
LAND USE/ GROWTH MANAGEMENT	Amend the Zoning bylaws to establish a multi-category threshold that would trigger special permit review of large/high traffic generating commercial and mixed-use developments.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Amend the Zoning bylaws to create a definition of “strip” development and make it a prohibited use in the table of use regulations.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Develop a zoning amendment that provides incentives for shared access to developments by way of zero side lot lines or reduced parking requirements.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Revise Section IX, B setback requirements and Section XI landscaping requirements to provide for thickly vegetated buffers.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
	Prepare plans for the Town Hall and Brackett Road areas, to include sidewalks, footpaths, parking, pedestrian crossing, traffic mitigation, lighting, landscaping and undergrounding of overhead utilities.	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Purchase vacant land as protected open space, especially on Route 6	Send Mailing to Property Owners/Monitor for Opportunities	Town Admin /BOS/Planning Board/Town Meeting	Ongoing	OB/WA/Grants
	Increased lot frontage requirements on Route 6	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Increased lot sizes for residential development on Route 6	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
LAND USE/ GROWTH MANAGEMENT	Strict limits for lot coverage for commercial uses on Route 6 with incentives for shared curb cuts with adjacent residential properties	Prepare Zoning Amendments	Planning Board/ Town Meeting	2	OB
	Explore aggressive measures to limit conversion of seasonal homes to year round uses on small lots.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
	Explore other measures to limit buildout throughout the Town	Prepare Zoning Amendments	Planning Board/ Town Meeting	Ongoing	OB
	Amend its subdivision rules and regulations to take advantage of the three open space dedication provisions in MGL, Ch.41 Subdivision Control Law.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
	Amend its subdivision rules and regulations to require the submitting of a preliminary cluster plan for new development of five or more lots.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
	Amend its subdivision rules and regulations to require natural drainage designs with buffers to wetlands.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
	Amend its subdivision rules and regulation to require separate drainage lots and access ways to drainage areas.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
	Amend its subdivision rules and regulations to require plan sheets showing regrading, landscaping and erosion control methods to be used on the property.	Prepare Zoning Amendments	Planning Board/ Town Meeting	1	OB
WATER RESOURCES	Develop long-term and short-term potable water management plans.	Continuing Activity	WRAB	Ongoing	OB/WA
	Monitor groundwater contamination and propose remediation programs.	Continuing Activity	HD, WRAB	Ongoing	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
WATER RESOURCES	Develop a systematic well water quality monitoring program and water quality database.	Activate Program	HD/BOH, WRAB	1,2	OB/WA
	Conduct hydrogeological studies in vulnerable or impaired areas of Town (landfill, Brackett Road, Route 6, HAZMAT release sites).	Continuing Activity	HD	Ongoing	OB
	Plan financial resources for: development of a water quality database; hydrogeological and water quality studies in impaired areas; implementation of water supply management recommendations.	Develop Action Plan	WRAB, Town Admin, FinCom	1	OB/WA
	Develop recommendations and support actions that will preserve future options for quality groundwater supply sources.	Continuing Activity	Open Space, HD/BOH, WRAB, LandCom	Ongoing	OB
	Determine quality and quantity of potable water available for: on-site supply wells; a public water supply limited to areas with significantly degraded groundwater; a public water supply to all areas.	Initiate Program	NRO, WRAB	2	OB
	Explore establishment of town-wide limited public water supply.	Review Needs and Options	WRAB	Ongoing	OB
	Assess the need for designation of additional environmentally sensitive areas where special protective measures for water would be appropriate.	Identify Areas	BOH/HD, WRAB	Ongoing	OB
	Develop long-range wastewater management plan.	Develop Plan	BOH, WRAB	3	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
WATER RESOURCES	Promote use of alternative septic treatment systems where they can provide benefits.	Continuing Activity	BOH/HD, WRAB	Ongoing	OB
	Support and ensure diligent monitoring and maintenance of alternative septic treatment systems.	Initiate Program	BOH/HD	3	OB
	Explore wastewater management alternatives and objectives by initiating wastewater management planning activities.	Review Needs and Options	BOH/HD, WRAB,CPC	1	OB
	Continue the formulation of bylaws and regulations that will protect Eastham's water resources.	Continuing Activity	NRO, HD/BOH, WRAB	Ongoing	OB
	Expand and improve public education and the dissemination of information about water contamination issues.	Ongoing	WRAB, HD/BOH	1	Grants, OB
	Actively promote water conservation to reduce the volume of clean water that is converted into contaminated wastewater.	Develop Program	WRAB	1	Grants
	Improve communication and coordination of water resources information: among Town boards/committees and staff concerned with water resources (i.e., BOH/HD, NRO/ConsCom, Open Space, LandCom, DPW, Town Admin); and in particular between Eastham, Orleans, Wellfleet, and National Seashore.	Plan Approaches	All Boards with WRAB Coordination	1	OB, Grants

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
WATER RESOURCES	Develop and implement measures to protect freshwater ponds, wetlands and coastal embayments against the harmful effects of contamination from various sources and recreational uses.	Continuing Activity	NRO, ConCom	Ongoing	OB
	Protection of the tidal flushing of all wetlands.	Develop Program	NRO, ConCom	2	OB
	Implement protection for freshwater wetlands and ponds from stormwater discharge.	Continuing Activity	NRO, DPW, ConCom	Ongoing	OB
	Enforce the present 5 ppm nitrate-nitrogen loading standard.	Continuing Activity	BOH, DPW	Ongoing	OB
	Limit the introduction of chemicals such as fertilizers and pesticides into the groundwater.	Explore Options	WRAB	1	OB
	Continue to reduce the use of road salt.	Continuing Activity	DPW, ConCom	Ongoing	OB
COASTAL RESOURCES	Designate a "working waterfront" overlay zone in the area of Collins Landing in Town Cove to ensure the preservation and expansion of traditional maritime uses.	Prepare Zoning Amendments	ConCom/NRO/ Planning Board	2	
	Confirm designated traditional rights-of-way to the shore through appropriate legal means.	Develop Program	ConCom/NRO	3	OB/Grants
	Restrict development or increase in use in environmentally sensitive nearshore areas and limit septic impact of development.	Revise Regulations	ConCom/BOH	2	OB
	Initiate a harbor planning study, targeting Rock Harbor, to develop a framework and guidelines for use and dredging activities.	Initiate Study	ConCom/NRO	3	OB/Grants

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
COASTAL RESOURCES	Review areas designated as Federal no discharge zones for boats to be certain they meet current Federal and State guidelines.	Monitor	ConCom/NRO	Ongoing	OB
	Continue to cooperate with the regional efforts to provide disposal options for marine head waste.	Monitor	ConCom/NRO	Ongoing	OB
	Monitor by-laws and regulations established to reduce the potential impacts to health and safety and the economy resulting from coastal storms	Review After Coastal Storms	ConCom/ Planning Board	Ongoing	OB
	Update its list of projects that provide or enhance coastal access and use of their shoreline.	Update Inventory	ConCom/NRO	3	OB/Grants
	Encourage "soft" solutions to coastal erosion instead of engineered structures.	Develop Recommended Measures	ConCom/NRO	2	OB
	Develop a comprehensive plan to require annual beach nourishment/replenishment as a condition for permission to install, maintain or rebuild a revetment.	Develop Plan	ConCom/NRO	1	OB/Grants
	Secure easements for public ownership of tidal flats between mean high and mean low water.	Monitor for Opportunities	ConCom/NRO	3	WA/Grants
	Maintain a regular dredging schedule for Rock Harbor.	Develop Program	ConCom/NRO	1	OB
	Explore the feasibility of using Rock Harbor dredged materials for beach nourishment projects.	Explore Options	ConCom/NRO	2	WA/Grants
	Continue to upgrade and expand beach services.	Upgrade Services	ConCom/NRO/Recreation	Ongoing	OB/Grants

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
COASTAL RESOURCES	Implement a continuing environmental education program.	Develop Program	ConCon/NRO	3	OB/Grants
	Continue and expand the shellfish propagation and predator control efforts for both recreational and commercial uses.	Expand Program	ConCon/NRO	Ongoing	OB
	Pursue the establishment of community rather than individual private docks in the area of Town Cove.	Develop Program	ConCom/NRO	2	OB
	Identify and cleanup the existing point source discharges of storm water from roadways such as Route 6.	Develop Program	DPW/ConCom	1	OB/WA/Grants
	Target the salt marsh areas along Cape Cod Bay which are subject to administrative closure for sanitary survey and restoration/remediation programs.	Develop Program	ConCom/NRO	2	OB/WA/Grants
	Wetlands and vernal pool should be mapped, identified, and protected so as to maintain their ability to provide natural functions.	Conduct Mapping	ConCom/NRO	2	OB/Grants
WETLANDS WILDLIFE AND PLANT HABITAT	Adopt a wetlands bylaw that provides for the following: protection of vernal pools outside other resource areas as well as isolated wetlands, a policy of no alteration/replication of wetlands for both public and private applicants, expansion of jurisdiction beyond 100 feet where appropriate, improved enforcement authority, and the ability to hire consultants to review applications at the applicant's expense.	Revise Regulations	ConCom/NRO	1	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
WETLANDS WILDLIFE AND PLANT HABITAT	Develop mutually acceptable policies for wetland boundary delineation and the siting of new subsurface disposal systems as well as improving and retrofitting areas with failing systems.	Develop Policies	ConCom/BOH	1	OB
	Develop and implement plans to address existing stormwater management problems where runoff and drainage systems are adversely affecting water quality in wetlands and water bodies.	Develop Program	ConCom/DPW/BOH/Planning Board	1	OB/WA/Grants
	Seek ways to remediate tidal restrictions	Identify Measures	ConCom/DPW	2	Grants
	Develop a review process for activities in critical plant and wildlife habitat areas	Develop Program	ConCom/NRO	2	OB
	Adopt by-laws/ordinances limiting land clearing and alteration of natural topography prior to development review.	Prepare Zoning Amendments	ConCom/ Planning Board	2	OB
	Conduct an analysis to assess potential growth impacts upon wetland areas	Coduct Analysis	ConCom/NRO	2	OB
	Conduct an analysis to assess potential growth impacts upon wildlife and plant habitat areas	Coduct Analysis	ConCom/NRO	2	OB
OPEN SPACE	Develop a comprehensive open space protection program in order to meet future open space and recreation needs	Develop Program	Open Space/ConCom/Recreation	2	OB/Grants

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
OPEN SPACE	Update its Open Space and Recreation Plan every five (5) years and submit it to the State to maintain eligibility for Open Space funding under federal and state grant programs.	Update Plan	Open Space/ ConCom/NRO / BRD/ Planning Board	1	OB/Grants
	Work with the Eastham Conservation Foundation to identify, acquire and manage open space and conservation restrictions.	Coordinate Activities	Open Space/ ConCom/NRO	Ongoing	OB
	Work with the Eastham Conservation Foundation and with landowners participating in the Chapter 61 programs to acquire conservation restrictions on those lands or should set aside funds for their purchase if they are proposed to be sold for development.	Coordinate Activities	Open Space/ ConCom/NRO	Ongoing	OB
	Develop a cluster by-law and actively promote its use where this alternative would allow protection of open space and recreation lands, environmentally sensitive areas and/or provide for needed trail corridors.	Prepare Zoning Amendments	Open Space/ ConCom/Planning Board	1	OB
	Amend its subdivision regulations to take advantage of Section 81U of the Subdivision Control Law which permits towns to require open space set-asides within subdivisions for future acquisition.	Amend Regulations	Planning Board	1	OB
	Continue to maintain and protect public access to both freshwater and saltwater bodies for recreational purposes.	Continue Monitoring	ConCom/BOH/ NRO	Ongoing	OB/Grants

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
OPEN SPACE	Investigate possible loops or connectors with the existing biking and walking paths, identify parcels for acquisition, establish a bike safety course, recommend measures to mitigate safety concerns, and identify opportunities for additional parking in proximity to the Cape Cod Rail Trail.	Review Opportunities	Planning Board/Bike Committee	Ongoing	OB
	Maintain Town-owned land within the Cape Cod National Seashore as open space.	Maintain	ConCom/NRO	Ongoing	OB
	Continue to expand the current programs to include all age groups and consider additional sites for ball field and basketball facilities.	Expand Programs	Recreation	Ongoing	OB
	Construct a multi-use sports building.	Develop Plan	Recreation	2	OB/WA/Grants
	Encourage landowners to restore blighted or abandoned areas to open space.	Develop Program	ConCom/NRO/ Planning Board	3	OB/Grants
	Aggressively seek to acquire tax title lands and hold them for community purposes.	Monitor for Opportunities	BOS	Ongoing	OB/WA/Grants
	Evaluate the need for a youth center community facility.	Conduct Study	Recreation	2	OB
	Consider recreation needs in the development of plans for the Town Hall area and for the Route 6 and Brackett Road area.	Incorporate into Study	Planning	2	OB
	Revise Open Space Map to include key differentiating between types of ownership/control.	Develop Map	Open Space/ Planning Board	2	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
AIR QUALITY	Eastham should examine existing land use patterns and identify suitable locations for mixed-use development aimed at reducing automobile travel and air emissions.	Initiate Study	Planning Board	2	OB
	The Town should work with the Commission and DEP to further the understanding of air quality problems that affect Eastham and provide public education about way residents and businesses can improve air quality.	Coordinate Activities	Board of Health	Ongoing	OB
	Promote the use of alternatives modes of transportation including: public transit services, carpooling, bicycling and walking to destinations when possible.	Coordinate Activities	Board of Health	Ongoing	OB
	Research the availability of bio-diesel and its potential use for the municipal fleet.	Invetiagate Availability	DPW	3	OB
ECONOMIC DEVELOPMENT	In preparing the Local Comprehensive Plans (LCP), meet with businesses and business organizations to ascertain economic development needs in the community.	Interview Businesses	Chamber of Commerce	3	OB
	Create regulations that provide incentives for businesses to locate in compact mixed-use centers.	Prepare Zoning Amendments	Planning Board/Town Meeting	2	OB
	Work with the private sector including the Chamber of Commerce to identify and develop entrepreneurial and business activities compatible with towns' existing strengths and resources.	Develop Strategies	Chamber of Commerce/All Town	Ongoing	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
ECONOMIC DEVELOPMENT	Prepare and take steps to deal with traffic issues at the Brackett Road/Route 6 area.	Develop Plan	Planning Board/ConCom		OB/WA/Grants
	Promote with particular attention to increasing "off-season" activity, including Windmill Weekend and the fall foliage period.	Prepare Promotional Material	BOS/Chamber of Commerce	Ongoing	OB
	Actively support efforts to obtain frequent, affordable, year-round express bus service along Route 6 to enable Eastham residents without access to a car to work in other towns on Cape Cod and off-Cape.	Monitor Efforts	BOS/Chamber of Commerce	Ongoing	OB
	Augment performance standards for business and industrial areas to include such items as lighting, surface treatment, erosion, noise, water and air pollution.	Prepare Zoning Amendments	Planning Board	2	OB
	Encourage the use of the home as a business (home occupation), such as telecommuting and direct mail.	Develop Program	Chamber of Commerce	3	OB
	Request the Eastham Chamber of Commerce to act as the responsible agency to represent Eastham before the Cape Cod Economic Development Council for the purpose of identifying a small, "clean" industrial firm that would consider locating in Eastham.	Identify Prospects	Chamber of Commerce	Ongoing	OB
	With the Chamber of Commerce, cooperate in periodic surveys of local businesses to learn about business issues and impediments to economic development.	Conduct Surveys	COC/EDC	Ongoing	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
ECONOMIC DEVELOPMENT	Develop a pedestrian walkway system in local business centers to encourage small-scale boutique commercial development.	Develop Plan	Planning Board/DPW	2	OB/WA/Grants
	Develop a feeder bicycle path system to support bicycle commuting to shop, work sites and the post office.	Develop Plan	Planning Board/DPW	2	OB/WA/Grants
	Participate with the Cape Cod Commission in developing a 20-year Regional Infrastructure and Facilities Plan.	Coordinate Activities	BOS/Chamber of Commerce	Ongoing	OB/WA/Grants
	Continue the five-year capital improvement plan	Annual Revisions	Town Admin	Ongoing	OB
	Continue participating in investigation and data collection for surface water quality data such as Town Cove.	Continue Data Collection	BOH/ConCom/NRO	Ongoing	OB/Grants
TRANSPORTATION	Implement a Site Plan Review process, which addresses curb cut reductions and access control	Prepare Zoning Amendments	Planning Board/DPW/Town Meeting	1	OB
	Identify areas in need of curb cut reductions and/or access improvements and make recommendations for the accomplishment of these reductions to the Massachusetts Highway Department.	Coordinate Activities	Planning Board/DPW	1	OB
	Develop an aggressive open space preservation program to reduce the build-out potential of the Town (see Open Space section).	Develop Program			

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
TRANSPORTATION	Establish a traffic impact assessment program to require an evaluation of the impacts of new developments and expansions (especially non-residential) on Levels of Service for local and state roadways.	Zoning Change	Planning Board	2	OB
	Request that the Massachusetts Highway Department provide turning lanes and a pedestrian crossing at Brackett Road and Route 6. Further, the Town should consider additional turning lanes, signalization, and pedestrian crossings at other dangerous intersections or problem areas along Route 6.	Coordinate Activities	Planning Board/DPW	Ongoing	OB
	Sidewalks should be constructed along Route 6, Massasoit Road, Oak Road and the Old State Highway, as well as other areas, which are heavily used by pedestrians.	Develop Plan	DPW	3	OB/Grants
	Identify and re-establish (if appropriate) any abandoned rights-of-way.	Identify Need	DPW/Planning Board	3	OB
	Work with the Massachusetts Highway Department of Transportation to ensure sidewalks are clear of snow and ice.	Coordinate Activities	DPW/MHD	Ongoing	OB
	Work with the appropriate agency(s) to remove, relocate or bury utility poles.	Coordinate Activities	DPW/Planning Board	Ongoing	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
TRANSPORTATION	A Town Hall area plan should be created to include signage, lighting, sidewalks, undergrounding of utilities, and additional traffic mitigation measures for this area, both to slow traffic speed and to increase the awareness of Eastham's civic and historic (Windmill) center.	Develop Plan	Planning Board	2	OB/Grants
	Begin to identify Route 6 as "Main Street" or "Grand Army of the Republic Highway" to give Eastham a greater sense of place. Signage entering the Town can emphasize this recognition, which should distinguish this portion of Route 6 from any other.	Develop Plan	BOS/Planning Board/Historic Commission	2	OB/Grants
	Consideration should be given to installation of bicycle racks and rentable storage bins in appropriate locations. The committee should also encourage the State to consider additional rail trail parking.	Coordinate Activities	Bike Committee	Ongoing	OB
	Increase buffers and/or adopt a land coverage requirement to reduce the intensity of non-residential development and resulting vehicle trips per day.	Prepare Zoning Amendments	Planning Board	2	OB
	Implement the recommendations of the Eastham Pavement Management Study.	Implement Study	DPW	2	OB
	Provide signage along the Cape Cod Rail Trail to indicate beaches, commercial areas and other attractions within the Town.	Develop Plan	DPW/MHD/DEM/NPS	2	OB/Grants

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
TRANSPORTATION	Work with neighboring public transportation communities, the State, the Cape Cod National Seashore and others to improve seasonal bus service in the Outer Cape, including increased shuttle service to National Seashore beaches from remote parking areas and town center locations.	Coordinate Activities	BOS	Ongoing	OB/Grants
	Local by-laws should be considered to increase lot sizes and the frontage of lots on Route 6.	Prepare Zoning Amendments	Planning Board/Town Meeting	2	OB
	Purchase available land that fronts on Route 6.	Monitor for Opportunities	Town Admin/BOS/Planning Board	Ongoing	WA/Grants
	Traffic signals on Route 6 should include “walk” signals for pedestrians and bicycles.	Coordinate Activities	DPW/Planning Board	Ongoing	None
	Ensure Highway signage is in accordance with the Manual of Uniform Traffic Control Devices.	Review Signage	DPW/Building Inspector	3	OB
	Require regulatory and warning traffic signs that employ symbols.	Identify Need	DPW	Ongoing	OB
	Remove inappropriate and unnecessary traffic signage.	Review Signage	DPW	Ongoing	OB
	Work with Mass Highway and the Cape Cod Commission to pursue installing a traffic signal at the Route 6 / Governor Prentice Road intersection to improve traffic and pedestrian safety.	Coordinate Activities	BOS/Planning Board	1	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
SOLID AND HAZARDOUS WASTE	Eastham should work with other Cape Cod communities to find acceptable methods to recycle, compost or dispose of construction and demolition debris, mattresses, DPW wastes, and Tri-Town Septage Treatment Facility by-products (grit, screenings and sludge).		Recycling		
	To offset the increased cost of disposal of non-recyclable solid waste, Eastham should focus on maximizing recycling by making recycling easy, by promoting access to recycling for seasonal residents, and by utilizing other incentives to recycling such as unit based pricing.		Recycling		
	Eastham should consider dedicated funding for an annual household hazardous waste collection for residents to dispose of accumulated hazardous waste.	Identify Funding	Recycling	1	Grants
	Eastham should contract to implement the redesign plan for the Transfer Station.	Redesign Transfer Station	Recycling/Town Meeting	1	WA/Grants
	Eastham should adopt a toxic and hazardous materials bylaw to prevent the improper use, storage and disposal of such materials, utilizing the Barnstable County model bylaw or other similar bylaw.	Develop By-Law	Recycling	2	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
SOLID AND HAZARDOUS WASTE	Eastham should continue to work toward multi-town joint participation in the collection of hazardous waste with a goal of providing citizens the opportunity to drop off hazardous waste several times per year.	Coordinate Activities	Recycling	Ongoing	OB
	Eastham should continue to seek out alternatives to processing of solid waste including possible regional solutions.	Review Alternatives	Recycling	Ongoing	OB
CAPITAL FACILITIES AND INFRASTRUCTURE	Continue practice of participating with others in investigation and data collection for sub surface water such as the USGS study.	Continue Data Collection	BOH/ConCom/NRO	Ongoing	OB/Grants
	Continue to support local well water monitoring and data gathering programs such as the nitrate-testing program.	Continue Data Collection	BOH/ConCom/NRO	Ongoing	OB/Grants
	Continue to press electric utility companies to underground service.	Coordinate Activities	Planning Board	Ongoing	OB/Grants
	Consider development of certain town owned parcels as industrial land to foster local industrial development.	Monitor for Opportunities	BOS/ Planning Board	Ongoing	OB
	Continue to work with the state to ensure improvements to Route 6	Coordinate Activities	DPW/MHD	Ongoing	OB
ENERGY	Work with Cape Light Compact	Choice Power Supply Program	Town Administrator	2	OB
	Regulate Energy Conservation Standards		Town Administrator	3	OB
	Provide Incentives for Energy Conservation	Develop Program	BOS	3	OB
	Review Municipal Building for Energy Efficiency	Audit Buildings	BOS	3	OB/Grants

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
ENERGY	Study for Clean Alternative Fuels	Conduct Study	Town Administrator	3	OB
	Conduct Public Energy awareness education programs	Seek Funding	TBD	3	Grants
	Reduce Number of Overhead Utility Lines	Monitor for Opportunities	Planning Board	2	None
	Document cost Savings – Apply Toward Future Programs	Conduct Analysis	Town Administrator	3	None
	Work With Home Builders Assoc.	Implement Energy Efficient Building Methods.	Town Administrator	3	OB
	Establish Energy Committee	Develop Procedures to Implement Recommendations	BOS	1	OB
HUMAN SERVICES	Annual reporting of Human Service agencies to Town	Prepare Annual Summary	HSC	Ongoing	OB
	Survey of needs formation Formation of Children/Youth Council	Survey Needs Appoint	BOS/HSC	1	OB
	New and Strengthened Day Care after-school programs	Initial Planning Committee to Explore feasibility , goals, cost	BOS/HSC	2	
	Outreach to isolated elderly	Plan for details of program including cost	COA	2	
	Medical care for uninusred	Contract with Outer Cape Health Services	BOS	2	
	Support for basic needs programs, i.e. food shelter	Town funding increased	BOS	3	

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
LIBRARY	Complete an assessment of current space, assessing and analyzing current space. Staff should keep a record of requests for meeting space that Library can and cannot fulfill	Complete Assessment	Library	2	OB
	Develop a flexible meeting space that will accommodate at least 100 people	Develop Space	Library	3	WA
	Develop expanded space to house a variety of materials in different formats	Develop Space	Library	3	WA
	Establish cooperative efforts with the Eastham Historical Society and the Town of Eastham to provide improved access to, accommodation for, and the preservation of local historical and genealogical materials	Coordinate Activities	Library/Historical Commission	1	OB
	Should make at least 5 new contacts with community organizations and services offering the library as a clearinghouse for information	Initiate Contacts	Library	2	OB
	Attain a 90% rate of patrons surveyed being aware that information about the community resources is available at the library	Conduct Survey	Library	Ongoing	OB
	Conduct an assessment of current space and determine what changes can be made within existing space to improve the library environment	Conduct Assessment	Library	1	OB
	Provide a variety of spaces to serve the age groups represented within the community, with a particular emphasis on young adults, home schoolers and the physically/mentally challenged.	Provide Space	Library	3	OB

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
LIBRARY	Develop a list of local and other educational institutions	Develop List	Library	1	OB
	Identify the diverse community groups within the population	Identify Groups	Library	1	OB
	Develop, distribute and analyze a survey to identify the needs and priorities of these community groups	Conduct Survey	Library	1	OB
	Conduct annual evaluation of technological needs and resources	Conduct Evaluation	Library	Ongoing	OB
	The library should explore and utilize outreach opportunities via local media	Explore Opportunities	Library	1	OB
	Should become a primary venue for events, programs, and current topics.	Promote Location	Library	3	OB
AFFORDABLE HOUSING	Promote/adopt growth management by-laws	Prepare Zoning Amendments	Planning Board, Town Meeting	2	OB
	Promote/Adopt Zoning Changes that allow mixed-use development	Prepare Zoning Amendments	Planning Board, Town Meeting	2	OB
	Establish housing committee/partnership to develop policy		BOS	3	No cost
	Inventory public and private vacant land suitable for affordable housing	Develop program	Housing committee/partnership.	2	No cost
	Donate or lease town-owned land to the Housing Authority	Undertake study.	BOS	3	Unknown

RECOMMENDATIONS/ACTIONS IMPLEMENTATION TABLE

LCP Element	Recommendation	Action	Responsible Board/Agent	Estimated Priority	Cost to Town
HERITAGE/ PRESERVATION	Continue to Inventory Historic Resources	Apply for State Grant	Historic Commission	2	OB
	Nominate Qualified Properties for Listing in National Register	Identify eligible properties and homeowners	Historic Commission	2	OB
	Establish a Scenic Roads By-law	Prepare Town by-law for Town meeting action	Historic Commission/ Planning Board	2	None
	Encourage undergrounding existing utility lines	Work with Cape Cod Commission and other Town boards and community organizations	Historic Commission	3	Unknown